

**SUSTAINABLE FUTURE, REQUISITE HOLISM, AND
SOCIAL RESPONSIBILITY
(Against the current abuse of free market society)**

**Stane Božičnik, Timi Ećimović and Matjaž Mulej
With co-authors**



**ANSTED University,
British Virgin Islands, and
ANSTED Service Centre, Penang, Malaysia
School of Environmental Sciences
In Cooperation with
SEM Institute for Climate Change,
Korte, Slovenia
And
IRDO Institute for development of Social Responsibility,
Maribor, Slovenia**

2008

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Sustainable Future, Requisite Holism, and Social Responsibility (Against the current abuse of free market society)

Stane Božičnik, Timi Ećimović, Matjaž Mulej, with co-authors

Editor: Prof. Emeritus DDr. Matjaž Mulej

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Motto:

**Sustain-ability is a human ability,
Making humankind able to sustain its own existence;**

And

**Environ-mental problems are mental problems,
Making humankind mentally able to keep its own environment
able to carry humans and their perception of wellbeing;**

And

Well-being makes human beings well rather than ill, first of all.

**This is hardly possible without sustainability
and prevention/solving of environmental problems.**

**They are not problems of the Planet Earth, but
problems of humankind living on it
so far and with an unreliable future,**

if it is not going to be a sustainable future.

One-sidedness can no way create sustainable future.

**But total, i.e. real, holism of human acting/behavior is unattainable
neither is wholeness of human insight and action.**

**Hence the requisite holism is the way out
from the current blind alley.**

And Social Responsibility of all, not corporations only, helps it show up.

**Sustainable future is harmony of humankind and the Nature/Biosphere of
planet Earth.**

Eco-logic - Utopia as a Vision

Oikos – Nature is universal truth

Logos – Lets hope this will be never ending story

And

Utopia, as a Vision is actually a part of our daily life.

**Our Mother Earth as a part of Universe offers and
gives us unconditional love every moment.**

**Like babies do we should return our love to her by making
the concept of Sustainable Future, permeated with human values:
ethics of mutual understanding and awareness of interdependence.**

**Deeper and more holistic understanding of natural processes will most likely
find its crucial place in Living of Future.**

EXECUTIVE SUMMARY

Prof. Dr. Roger Haw Boon Hong
ANSTED University

It is a great pleasure for me to write an executive summary to this remarkable publication entitled ‘**SUSTAINABLE FUTURE, REQUISITE HOLISM, AND SOCIAL RESPONSIBILITY**’, which brings together 26 highly important papers and cases related to system thinking about sustainable future which were written and contributed by 35 authors/co-authors representing 25 institutions from 8 countries.

This book has covered five sections:

- 1. The selected problem and viewpoint of working on it**
- 2. Sustainable future versus the current market democracy**
- 3. Cases related to system thinking about sustainable future**
- 4. Suggestions for action toward sustainable future**
- 5. Concluding remarks**

I wish to warmly congratulate the key persons of this publication project - Prof. Dr. Stane Božičnik, Prof. Dr. Timi Ećimović and Prof. Dr. Matjaž Mulej. Also the similar greetings go to many co-authors and all others who have generously contributed in many ways towards the realization of this book.

Books don't just happen by themselves. A number of smart, dedicated, competent, and compassionate people have to care about a book (and its authors) long enough to get it all done. In the case of this particular book, I would like to express my sincere thanks to all the writers who contributed their effort and time to promote Sustainable Future and Social Responsibility globally together with Ansted University, Ansted Service Center and me. I know, no serious academic text or reference or resource book will ever see the light of day without the careful and thoughtful work of our professional and academican colleagues. Those people have reviewed, criticized, and improved the contents of this book in many important ways and to each of them goes my gratitude.

In this book authors have drawn a broad-based strategic approach which is adopted to promote environmental soundness through research and development economic efficiency social equity, responsibility and accountability. These strategies will be directed towards the following key areas:

1. Education and Awareness
2. Effective management of natural and non-natural resources and the environment
3. Integrated development planning and implementation
4. Prevention and control of pollution and environmental degradation.
5. Strengthening administrative and institutional mechanisms.
6. Proactive approach to regional and global environmental issues
7. Formulation and implementation of Action Plans.

On the other hand authors have highlighted the objectives of the policy on the Environment are to achieve; (1) A clean, safe, healthy and productive environment for present and future generations; (2) Conservation of the world's unique and diverse cultural and natural heritage with effective participation by all sectors of society; (3) Sustainable lifestyles and patterns of consumption and production.

However, it is important to cultivate and practice these interrelated and mutually supporting principles:

1. Sustainable use of natural resources
2. Conservation of nature's vitality and diversity
3. Continuous improvement in the Quality of the Environment
4. Integrated decision-making
5. Stewardship of the environment
6. Commitment and accountability
7. Active participation in the international community
8. To support its implementation and further development, involving all sectors of society and including government, business and industry, academia, non-governmental organizations, the community and the family.

Writing an executive summary for this kind of book especially they are so many well known and experienced authors in their own respective field with different background which I feel that it is important to consult each of them to share their highlights with me and the readers at large to enable me to articulate it in my summary thus it will give easy understanding and will arouse the readers interest to continue to read the entire book.

Here are some important highlights that have been submitted to me by some of the authors after my consulting with each author to come up an impact statement which I would like to share with you too. Their research outcomes, perception and references will help to build and promote Sustainable Future, System thinking and Social Responsibility practice as a platform to safe world and reengineering a healthy living space which have been destroyed by human being long time ago.

“The key to control the world wide hunger consists in sustainable agriculture, preferably as Conservation Agriculture with special regard to improve the water productivity.” Prof. Dr. Med. Vet. Habil. Jörn Hamann

“Affluence is the goal and deadline of economic development: it kills motivation for work. Synergy of social responsibility, creative for general purposes, requisitely holistic behavior and ethics of interdependence enables sustainable future.” Mrs. Anita Hrast and Prof. DDr. Matjaž Mulej

“A sustainable social contract requires urgent attention to more inclusive democracy, social interaction to restore community, a new conception of the market as a complex ecology, and public-private sector balance.” Prof. Dr. Robert G. Dyck

“Pure markets are a useful ideology to bluff in order to reach the biased goals of large corporations, reduce workforce’s security, and transfer the uncertainty from capital to labor.” Prof. Dr. Dijana Močnik

“Road map for sustainable future of indigenous communities: a case of coastal India is attempt to examine the impact of globalization on a specific locality. However, the inferences that it draws go beyond the locality. Its express concern over the developmental activities initiated through special economic zone in the region which would seriously threaten the sustainable livelihood of millions of local and indigenous communities. Therefore, the emphasis of the paper is to reexamine the developmental agenda from a holistic perspective to achieve sustainable future for humanity.” Dr. T. N. Sreedhara & Dr. Rajarama Tolpadi

“Survey shows that the role of trust in Management is essential and depends on co-workers' starting points including interdependence.” Prof. Dr. Vojko Potočan

“Sustainable development in agriculture requires a delicate long term balance between farming practices and nature’s ability to renew itself. Conventional farming has accelerated environmental degradation due to excessive use of an-organic fertilizers and chemical pesticides. To reestablish land productivity and maintain soil fertility, Organic Rice Farming (ORF) was introduced for smallholders. Policy implication includes provision of affordable farm credit system delivered through Microfinance Institution to expand banking outreach. Capacity building for farmers association and trade support policy for organic products was recommended.” BS Kusmuljono

“The business policy and (global) enterprise strategy may well support the requisite holism and help humans pave their way to their sustainable future.” M. Sc. Tjaša Štrukelj and Prof. Em. DDr. Matjaž Mulej

No matter how, the insights into future events can be challenging as the future is not fixed. Until you experience it, the future remains as an array of possibilities with a "most likely" scenario based on what holds the greatest energy. Viewing the future can change the outcome. Even a 100% accurate view of the most likely scenario will trigger questions about whether you want that scenario to manifest, and that change can influence the outcome. This can give the illusion of inaccuracy in the original prediction. When you first start scanning the future, your predictions will be less accurate than they will become later, after constant practice. Mankind need to be aware that everyone is everything that Infinite Being is. The universe is holographic by design, meaning that while the many make up the One, the One is also mirrored within each of the many. So, each person, each spark of Infinite Being, contains all of the qualities of Infinite Being.

I sincerely hope that you will find this book can be of good help to you direct or indirectly as we understand no human being is perfect.

Yours truly,

Roger Haw Boon Hong, MBA, Ph.D, DSc.
Professor of Corporate Social Responsibility, Founding member of Ansted University
Founder cum Chairman of Ansted Social Responsibility International Awards
World Medal of Freedom awarded by The American Biographical Institute (ABI), USA

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Short presentations of the three authors and their co-authors

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Dr. Dr. Matjaž Mulej, Prof. Em., is a retired professor of systems and innovation theory, based at the University of Maribor in Maribor, Slovenia. He authored the Dialectical Systems Theory and the model of innovative business for the transitional economies and societies. He published beyond 1200 articles, papers and books in beyond 40 countries. He was a visiting professor at foreign universities for 15 semesters, including Cornell University, Ithaca, NY, in USA, China, Mexico, Austria, and Germany, and visited many further universities to give talks. As speaker and consultant on application of his USOMID methodology he was in companies in several countries about 500 times. He served as dean and vice-rector of his university in 1989-1993. He is member of four international academies of sciences. He heads the International Federation for Systems Research with 37 member associations with membership around the world.

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Dr. Robert G. Dyck's career spans more than 50 years and includes teaching, research, and professional activities related to issues of sustainable development. His book *Self-Transformation of the Forgotten Four Fifths* (1998) with Matjaz Mulej and co-authors, highlights community-based entrepreneurship for solution of global poverty problems. His article "Integrating Planning and Sustainability Theory for Local Benefit," in *Local Environment* (3, 1, 1998), uses co-evolutionary theory to link environment and economics. A sustainability paper presented at conferences in Beijing and Hong Kong was published as a chapter in *Design Professionals and the Built Environment*, edited by Knox and Ozolins (John Wiley, 2000). An article entitled, "The End of Neo-Liberalism and the Beginnings of Integral Economics," appeared in *World Futures: The Journal of General Evolution* (60, 4, June 2004). Other papers include "Designing a Sustainable Bazaar with Integral Science and Fractal Analysis," UIA Istanbul, July 4, 2005, and "Fractal Planning for Integral Economic Development" published by *Kybernetes, the International Journal of Systems and Cybernetics* (35, 7/8, 2006). A new co-authored book, *The New Science of Sustainability*, has just been released (Chapel Hill, Triangle Center for Complex Systems, 2008). Dyck is Professor Emeritus of Public and International Affairs at Virginia Tech, where he held administrative as well as academic posts from 1970-2001. He held earlier professional positions in Appalachian development at West Virginia University (1963-68), and in planning and architectural organizations in New York, Philadelphia, Pittsburgh, and the Boston area. His Ph.D. is in public and international affairs (Pittsburgh, 1970). He also holds an M.C. P. (Pennsylvania, 1959), a B. Arch. (MIT, 1955), and an A.B. (Oberlin, 1952). He is licensed to practice architecture in New York. In 1999, Dyck was the recipient of the University of Maribor's *Document of Honour*.

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Dr. Mark Esposito, Assoc. Prof., is an advisor to the UNESCO and a renowned specialist in Organizational management and Sustainability. Over recent years he has been focusing on the means with which to implement sustainable change and leadership in all industries. Integral to this effort is his concentration on the creation and development of sustainable thought and action in all facets of organizational and human performance. Currently, Dr. Esposito serves as an Associate Professor and Director of the MIB Program for Grenoble Graduate School of Business. He is also an Affiliate Professor at ESCP-EAP, European School of Management (Torino Campus), in the field of Organizational Development. Both these academic institutions enjoy enviable reputations around the world and are among the top 10 best European Business Universities. Dr. Esposito is consistently embarked on consulting projects aimed at the creation of collaborative scenarios for the training of executives and working professionals from Europe, North & South America and Asia. The blend of his academic and operational exposures has fed the developmental research within several organizations while contributing to the efforts of two major consulting firms with which he is currently involved. Since 2007 he has been consulting with the Government of Malaysia on roadmaps for International Human Resources. Early in 2008 he was nominated to be the Director of the "Institute of Sustainable Development and Corporate Social Responsible Practices" at the Boston Business School, in USA and Switzerland. He is the co-author of a textbook on Sustainability. Among his upcoming projects, is text on Corporate Social Responsibility as well as chapter contributions - in tandem with several other illustrious academics on the topic of "Laws of Communication". The latter it is anticipated is to be published by Wiley. He is involved with several on-going initiatives through the Institute of Transformative Thought & Learning in Phoenix, USA and the Prasena Knowledge Management firm in the Kingdom of Thailand. Dr. Esposito proudly claims to be a citizen of the world. He speaks 7 languages and lives between Switzerland, France, the USA and Panama.

H. E. Baron Col. Chev. Prof. Dr. Roger Haw is the Founder cum Chairman of the First kind of World Book of Records with a Focus on Corporate Social Responsibility aspects '**SRW RecordPedia**' and Founded the Ansted Social Responsibility International Award (**ASRIA**) to recognize those Corporations, NGOs and individuals around the world. The publication, which has been distributed to over 80 countries, includes commendable messages from four Nobel Prize Laureates. The ASRIA Awards are known by 187 countries member nations to UNESCO commissions. Prof. Dr. Roger Haw also serves as a Diplomat to the World Human Rights Service Council, USA to the United Nations. He has been selected as one of the International Biographical Centre, Cambridge, England TOP 100 EDUCATORS-2005. This accolade is credited to those individuals who have fulfilled a standard of merit in the eyes of their peers that is beyond the norm. It is a lasting tribute to that which can be achieved by a very select few for the benefit of many. He has co-authored several books and research papers in the areas of Corporate Social Responsibility, Learning Organizations, Alternative Medicine, Culture & Peace and Distance/Virtual Learning Programmes which were published by various publishers in the UK, Europe, USA, India, Korea, Thailand, and Malaysia, etc. He is one of the youngest founding members of Ansted University, established in the British Virgin Islands of UK, a private international open university with 40 affiliated campuses and training providers around the world with the support from more than 1,000 faculty members, scientists and researchers from more than 80 countries. He is also an Honorary Member of the Academic Board of Advisors and Board of Governors for 12 institutions in 12 countries.

Martin Heissenberger is a candidate for the Master of Business Administration at the University of Graz in Austria supervised by Dr. Gerald Steiner. A major focus in his work is CSR in a multi-national context.

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THE SELECTED PROBLEM AND VIEWPOINTS OF WORKING ON THEM IN THIS BOOK

It has become very clear over the recent decades: humankind has either a sustainable future or has no future in terms of the current civilization on the Planet Earth. This is no longer a long-term problem. This is what one may conclude from the fact that the Nobel Prize 2007 for peace, rather than for any single science, was awarded to scientists and politicians working on issues of the climate change, which is a crucial component of the sustainable future.

It has also become clear that no problem can be solved with tools that made it happen. Narrow specialists are unavoidable, but they help humankind much better, if they use interdisciplinary creative co-operation with specialists of other disciplines: this co-operation helps them become more or even requisitely holistic in their functioning/behavior, made per phases of monitoring, observation, thinking, emotional and spiritual lives, decision making and action. Requisitely holistic behavior of humans can make their results such as insights and related actions attain requisite wholeness.

And the third aspect that has also become clear reads: legislation can do much, but often not enough for the mentioned problems to be solved. Here is the room for the social responsibility to enter the scene for people and their organizations, especially enterprises to reach beyond legal obligations in their care for their co-workers, other business partner, broader society, and natural environment as the natural precondition of survival of humankind in terms of the current civilization.

This is why we are linking in this book four interdependent aspects of human life:

- 1 Sustainable future,**
- 2 Requisite holism and resulting requisite wholeness,**
- 3 Social responsibility of humans and their organizations,**
- 4 Ethics of interdependence.**

Our effort is supposed to hopefully become, in practical application of this book, an innovation. Innovation is much more than invention: it is every novelty that its users experience as a new source of their new benefit (EU, 2000, 4). With no innovation, humankind's future will not be sustainable, if there is going to be any at all. And there is no innovation without requisite holism of its authors and users, which links innovation and systems theory. Good fifty years after the authors of Systems Theory had succeeded in making this theory known, and politicians of the world had succeeded in using it (informally) by making the United Nations Organization as the most holistic political organization of humankind, the European Union (EU) found it necessary to explicitly link 'systemic' view with innovation. In (EU, 2000), EU after reminding readers of its previous documents enhancing innovation, states on p. 6:

'The Action Plan was firmly based on the 'systemic' view, in which innovation is seen as arising from complex interactions between many individuals, organizations and environmental factors, rather than as a linear trajectory from new knowledge to new product. Support for this view has deepened in recent years.'

We are offering a new contribution here, finishing with a recommendation how should humankind start solving the addressed problems.

0. Brief introduction to requisite holism and wholeness by the Dialectical Systems Theory

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Abstract:

As our approach to writing and composing this book, we are using the Dialectical Systems Theory that deals with the requisite holism of human behavior, world view and related supportive methodology. Every chapter of the book is based on one selected viewpoint and thus present one system as a unit of thought. All of them make a synergy of insight that makes a dialectical system in order to offer a case of the requisite wholeness of insight and outcome.

Key words: Dialectical Systems Theory, requisite holism and wholeness

0.1 The law of requisite holism (RH)

Systems theory was established against the usual over-specialization (Bertalanffy, 1979, p. VII). The increasing amount of humankind's knowledge has outgrown the natural human capacity to act with a complete insight and has made narrow specialization unavoidable, beneficial (for insights), and detrimental (due to oversights). The latter requires holism for humans to avoid crucial mistakes. But, the real – total/absolute – holism of human behavior, i.e. monitoring, perception, thinking, emotional and spiritual life, decision making, and resulting action, is impossible, and so is wholeness of insights and results of human acting/behavior. Reduction is unavoidable, but holism inside a single viewpoint, which most specialists practise is rarely sufficient for humans to succeed rather than fail. Therefore, humans work best with requisite holism (Mulej, Kajzer, 1998, based on: Mulej, 1974, 1975, 1976, 1979, and later, including Mulej et al, forthcoming): Fig 1 (Mulej, 2007). Thus, their insights and outcomes offer the requisite wholeness.

←-----→		
Fictitious holism (inside a single viewpoint and special profession causing oversights of attributes visible from other aspects)	Requisite holism (RH) (a dialectical system, i.e. synergetic network, of all and only essential interdependent viewpoints / professions / sciences / experiences)	Total = real holism (a system, i.e. synergetic network, of totally all viewpoints and attributes of the feature/event/process as object under consideration and/or management/control)

Figure 0.1: The selected level of holism of consideration of the selected topic between the fictitious, requisite, and total holism

We are trying to attain RH in consideration of sustainable future in this book. It belongs to preconditions of human survival in the form of the current civilization. The law of RH is a central part of the Dialectical Systems Theory (DST). Unlike most other system theories, presented in (François, 2004), DST focuses on the human capability to attain RH. Individually, inside a single discipline and selected viewpoint, humans can see only a small part of the really existing attributes; all other attributes are victims of oversight, but they do not cease and go on existing and impacting. In turn, oversights make humans victims of their own oversights. The current human problems with their safe, healthy and pleasant natural environment – as humans' preconditions of survival – result from such oversights. They resulted from one-sided human behavior and can therefore not be solved with it, but with RH enabling requisite wholeness.

0.2 Dialectical Systems Theory as a background of requisite holism

DST is supposed to help humans manage/control their lives from aspect including both knowledge in the left hemisphere and emotions in the right hemisphere of the human brain and heart. Control is a topic of cybernetics from the latter's very beginning. Humans do not use only their sources (possibilities) and knowledge to control/master/manage, but their values, culture, ethic, and norms (VCEN) as well (Potočan, Mulej, 2007). Thus, knowledge management is not enough for success. Education and other forms of formation by information tackle values, culture, ethics, and norms (VCEN) for humans to use VCEN not only along, but in synergy with knowledge and material/outer resources. Pioneers in application of systems theory and cybernetics to management/control did not tackle VCEN much or at all. Among them, Mulej seems to belong to pioneers in linking knowledge and VCEN (references as above). When criticizing the reduction of definition of objectives of human activities to 'desired objectives', Mulej introduced the notion of starting points and related interdependence-based process of interaction of

- 1 Outer conditions ('objective starting points', made of needs and possibilities), and
- 2 Human attributes ('subjective starting points', made of knowledge on content, knowledge on methods, and

values/VCEN).

This process takes place before objectives are defined to make them requisitely holistically grounded rather than merely desired. Subjective starting points cause humans to select their viewpoints (e.g. per profession and VCEN), hopefully as a dialectical system, as their basis to select the perceived needs and possibilities, and later on the preferential needs and corresponding possibilities. Later on, the synergy of definitions of the preferential needs and corresponding possibilities leads to definition of objectives, further on of related tasks, related procedures, and resulting outcomes of the process of human activity at stake. (Let us leave aside the guidelines for humans to act along in both the definition of objectives and in attaining them, and the laws of hierarchy of succession and interdependence, of entropy, and of requisite holism, as well as the USOMID as the applied methodology making Mulej's Dialectical Systems Theory applied in practice.)

In this book, like in previous books, which Ećimović and Mulej have co-authored (Ećimović et al, 2002; Ećimović et al, 2007), the application of DST is visible in book's attributes as follows:

- 1 The objective starting points:
 - 2 The objective need: humankind's need to survive as the present civilization;
 - 3 The objective possibility: humankind's way of life in line with the carrying capacity of the planet Earth;
- 4 The subjective starting points of this book's authors and their coauthors:
 - 5 The knowledge on content ('What?'): knowledge of problems of a poorly sustainable present situation on the planet Earth;
 - 6 The knowledge on method ('How?'): knowledge on solving some of the problems mentioned, knowledge on making the chapters of this book and on making them a RH information by use of DST;
 - 7 The values and other emotions: deep concern with the poorly sustainable present situation on the planet Earth, and deep wish to help humankind find a RH way out of the current blind alley with this book;
- 8 The dialectical system of essential viewpoints based on authors' subjective starting points: synergy of all viewpoints on which chapters in the book are based as the selected viewpoints per chapters;
- 9 The preferential need: to offer to humans a new way out of the current blind alley;
- 10 The corresponding possibility: a synergy of insights into the sustainable future, requisite holism, and social responsibility;
- 11 The objective/goal: to present our thoughts with this book;
- 12 The related dialectical system of tasks: furnishing all chapters and making them a round-off book;
- 13 The related dialectical systems of procedures: methods of creating the chapters and the book;
- 14 The foreseen outcome: a useful, interesting, helpful, worthwhile, and usable book offering a RH way out of the current blind alley of humankind's current civilization.

Interested readers can find more information on DST in references mentioned here and in these references, in François (2004), and at www.izum.si/cobiss/bibliografije/08082.

0.3 Conclusions

There is, according to practical experience over millennia, no way out of the problem, if methods are used that have caused the problem. The problem of existence of the current civilization was caused partly by nature and partly by humans' one-sided rather than requisitely holistic acting/behavior that has led to one-sidedness rather than requisite wholeness of human insight and action. In our experience of some four decades, the Dialectical System Theory offers a suitable basis for requisite holism to be the world-view and methodology supporting it in order to enable humans to attain requisite wholeness. In this book we are applying it partly formally and partly informally to help humans attain a sustainable future rather than only a sustainable development. The difference between the two notions is the difference between limitation of the sustainable development to a more or less simple combination of economic and environmental aspects of human behavior, and the much broader sustainable future encompassing the entire human life on Earth.

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1. Our common enemy: The Climate Change System Threat

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Abstract:

Lack of systemic/requisitely holistic acting, i.e. monitoring, perception, thinking, emotional and spiritual life, decision making, and action, on the part of the most influential persons and their organizations in the contemporary world is a serious threat to the climate. The climate change, as it is visible today, may lead to the end of our civilization.

Key words: climate, humankind, systemic thinking

1.1 Introduction

Due to systemic approach to the questions/situations within the biosphere, it is impossible to discuss water issues only, without taking into considerations important parts of the biosphere, lands, and air systems. We think it is important to share knowledge of system thinking and the Nature of our Planet Earth. Our civilization's common enemy includes consequences of the impact of the climate change system at the Planet Earth biosphere/our living space. It is elementary to have common threat, which may help our civilization to attain a better chance for survival. ***“Our Common Enemy” is the climate change system (Ećimović, 2006).*** Where we come from, and what we are, where we live. The simple mind of complicated and complexes content, uniqueness without reality, requisitely holistic approach and another achievement what is what we think, maybe?

1.2 Environmental sciences' response

Environmental sciences are offering possibility for researching and discovering realities, which could result with understanding basics of the Nature and everything. The climate change system is a requisitely holistic part of the Nature.

The Nature – it is complicated situation with our understanding of the Nature. Great achievements, discoveries and research have been done in past and present and hopefully will be done in future, but it looks like our understanding of the Nature and the Nature itself are on two banks of the same river.

Life, even survival of us, the modern civilization, depends on conditions provided by the *nature* in which all of us humans live, and by the climate change system as an integral part of it. The Nature, the Cosmos/Universe, the Milky Way, the Solar System, the Earth, the Biosphere, climate and climate change systems, terrestrial, water and air environments are *no simple systems* (features, entities, and processes), but very complex and complicated issues. The time – *duration, continuance (Webster)* as it is accepted, used and understood by humans and our civilization may look completely different from the *nature* point of view.

Great achievements of researchers from beginning of our civilization, antiquity, and till present, from understanding environment at hand to researching larger environments has brought up us to understanding of The Theory of Relativity, nuclear, quantum mechanics technologies and techniques, genetic structure, big bang, black holes, string theory and many other discoveries including methods and means for mass killing of humans.

So far humans have not been so much self supportive and sufficiently successful in their influencing the biosphere, climate and climate change system, urban and agriculture lands, water and forest environments, atmosphere and producing long lasting sustainable human eco-sphere: the dangerous consequences result from ***too much one-sidedness*** of humans, and suggest humans to use more systemic/holistic thinking.

1.3 Small Earth – too big humankind's requirements

We humans live on Earth, which is a *small, but integral part of the Universe*. We are able to live here due to suitable climate and other living conditions. All over the billions of years of the existence of our planet Earth, the climate has kept changing.

The impacts causing this changing, in general, result from natural processes and/or human interventions. Both kinds of impacts can cause consequences, which are both good and bad by human criteria. E.g. from a rather one-sided/narrow/shallow/oversimplifying viewpoint the changes in the human life over the last 2 – 3 centuries are bringing the so called *progress*: more comfort, a higher standard of living (for part of humanity) on the basis of many technological and non-technological innovations.

But from a more holistic/broader/systemic/complexity-facing viewpoint we see that the same changes tend to cause our own *extinction*. Which is the ***correct viewpoint?*** The usual answer would read: the common sense. But the modern

experience demonstrates very many destructive consequences of the “common” sense, i.e. the *one-sided viewpoint* as a usual basis of thinking, decisions making and acting, which is normal with all of us individuals as specialists knowing a small fragment of reality. So, at least since the UN (humankind’s highest political body) has planned for “**sustainable** (i.e. no short-term and nature-destroying) (**development**) **future**”, the humankind of today knows: we should better apply the “uncommon” sense, i.e. the holistic/systemic thinking. Each and every individual human idea, decision, and action may seem to make a small, even negligible impact, but the consequences of all of them together may be tremendous.

In the case of biosphere, our human actions tend to cause our own **self-destruction**, because we tend to **lack holism**, both in our knowledge, values, emotions, and resulting actions.

It is hard to believe what we, as humankind, know about the world and the universe. Many well-known issues and insights, however, are fragments of the whole, and we have to understand the whole on the basis of fragments without knowing the whole. And what is the whole, where are limits of fragments, and what are issues of a whole? **The whole is everything** and all other features are issues within/without inferior and superior systems/wholes/entities making partial or (fictitiously) absolute whole/s.

The **absolute/only/total whole** is what we humans call the **Universe/Cosmos**.

Now, how to understand our own role as humans within the Universe, when our understanding of the nature, space, and environment is evolving/innovated from fragments, which have never been put together to allow for a holistic insight?

The natural evolvement, which has only one direction – **the dynamic multidimensional evolvement ahead**, does not include its own payment system, profit, financial institutions, and all other innovation of great importance for our civilization of today.

The nature has its own absolute knowledge, energy, matter, ability and possibility to construct systems/entities according to the existing information, environment, matter, energy, powers and forces, particles etc. of its own.

The question is “Why is there a planetary system like the Solar System?” and the answer could be “We do not know, but we think that it is a result of the available natural environment, information, energy, matter, powers and forces, particles, rays, and yet not known contents, etc. at moment of transformation/formation”.

What is certain, hence, is that the time has come for our civilization to make a decision about our future, including our own very near future. That decision, we believe, will take us forward to a **sustainable future or harmony with the Nature** (Ećimović, 2006), if a requisitely holistic thinking comes to **complement** the usual narrow specialists’ thinking. It should help us to see that we are not independent, but **interdependent**, i.e. needing each other and needed by each other, because we all are specialists. And we all live on the same planet Earth, which we cannot misuse for ever.

Black/white, shallow/deep, good/bad, positive/negative, primitive/civilized, and many more coupled terms could be put together and enable us humans to see the origin of **interdependences, interactions and co-operation** of the natural systems.

What was first “hen or egg”, “innovation or routine”? The answer is obvious, but rarely taken into account: they are interdependent, as soon as we consider the natural dynamics, not only a moment (which does not exist on its own anyway). So are specialized professionals, needing **creative supra/interdisciplinary co-operation** as their/our shared way out of the blind alley of a too narrow thinking and acting.

People, values and knowledge have been making an epic song of our civilization, which has been going on since humans have existed. And so has other nature, including **whole** Universe, Milky Way, The Solar System, Planet Earth, Biosphere etc down to fundamental particles – quarks, protons, neutrons, electrons, relativity theory, quantum mechanics and atom structural understandings. We people are a part of nature, although this has been admitted less over the last three centuries than ever before.

1.4 Recommendation

Our recommendations can be found in our final remarks of the book in Chapter 27.

B. SUSTAINABLE FUTURE VERSUS THE CURRENT MARKET DEMOCRACY

The free market and democracy are said to solve all crucial problems of the current humankind better than any other socio-economic order. If this is so, why is humankind facing the most difficult problems right now, after the few centuries in which the current market democracy has been reigning?

In this part of this book we are trying to illustrate the current situation. Later on we will try to provide cases of how a way out from the current blind alley can be created, rather than found, and we will try to provide suggestions to be added to suggestions that we have provided over the years in books by Ećimović et al, quoted here.

2. Democracy and its imperatives for a new social contract

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Abstract:

Although the global market is neither free nor democratic, government intervention in the market remains unwelcome in many quarters. Globalized business is not responsible to its locality or nation, and higher education is the all-too-willing accomplice of prevailing corporatist government and business interests. The presence of the United States in the global economy is supported by its “military Keynesianism,” so powerful that it has destroyed the democratic basis of all three branches of the American government and the independence of both its major political parties, while generating many negative and counter-productive impacts around the world. A broadly sustainable social contract requires urgent attention to the following: more inclusive democracy, social interaction to restore community, a conception of the market as a complex ecology, and universal access to capital.

Keywords: Democracy, Empire, Globalization, Market as a Complex Ecology, Social Contract

2.1 Introduction

The paper is based on review of a number of recent books and articles on related topics. It proceeds by examination of the current global empire, including its negative impacts on Americans themselves, to a listing of the fundamental flaws in the system. It then considers restoration of balance between the public and private sectors, based on the legacy of leaders such as Thomas Paine, Franklin D. Roosevelt, Martin Luther King, and Lyndon B. Johnson, as well as the promise of vital new leadership. It concludes with a proposal for a social contract that embodies a new economic model.

2.2 Empire and its Economic Impacts

Many American citizens are perhaps only vaguely aware that the United States is in fact a global *empire*, as characterized by the usual economic, military, political, and cultural descriptors. Among those who are aware, there is a sharp cleavage between those who do and do not support the government and business policies that are part and parcel of the meaning of empire in the 21st century. These factors explain why a critical evaluation of empire was initiated several years ago by the authors and historians, Tom Engelhardt and Steven Fraser, under the name *American Empire Project*.

So far, 18 books have been published in the series, by authors Walden Bello, Jeremy Brecher, James Carroll, Noam Chomsky, Jill Cutler, Robert Dreyfus, Greg Grandin, Peter Irons, Chalmers Johnson, Michael Klare, Alfred McCoy, and Brendan Smith. The books are published by Metropolitan Books, an imprint of Henry Holt & Company, New York.

The flavor of the series is provided by summaries of the following two books. The first, by Greg Grandin, professor of Latin American history at NYU, is *Empire's Workshop: Latin America, the United States, and the Rise of the New Imperialism* (2006). Latin America was critically important for the emergence of the US as an empire, but American intervention was essentially taken for granted, without much public notice within the U.S., throughout the 20th century. Military oppression in Guatemala and elsewhere in central America from the 50s through the 80s, the overthrow of Chile's Allende government in 1973, and the imposition of anti-Keynesian, neo-liberal, free market *shock* programs, under the intellectual leadership of Milton Friedman, were the hallmarks of three Latin American conquests resulting in much suffering and economic decline. Many current leaders of our current conflict in Iraq built their reputations in Latin America, but their failures provide no hope for success elsewhere in the world (237).

Chalmers Johnson is professor emeritus of the University of California, San Diego. He is also co-founder and president of the Japan Policy Research Institute, an organization promoting public education about Japan and Asia. Three of his recent books examine the consequences of American Empire: *Blowback*, *The Sorrows of Empire*, and *Nemesis: The Last Days of the American Republic* (2006). *Nemesis* focuses on militarism, the breakdown of constitutional government caused by imperial pathologies in Rome, Britain, and the US, and the pending national bankruptcy of the U.S., caused by the “military Keynesian” expenditures of our military-industrial complex. An estimated 737 to 1000 American military bases are located around the world, covering nearly 30 million acres, demonstrating that the U.S. military services constitute one of the world's biggest landlords (138-140).

A new book by Kevin Phillips, *Bad Money, Reckless Finance, Failed Politics, and the Global Crisis of American Capitalism* (2008), forecasts the demise of the American financial empire. Loosely regulated by government, the enormously profitable American financial services sector now constitutes 21 percent of GDP, but securitization of debt in the housing market, together with inflated national debt due to militarization with tax cuts, the escalation of oil prices, and the decline of the dollar, all indicate economic crisis, with joblessness, blighted cities, and increasing conflict over

immigration. Phillips, once a political strategist in the Nixon administration, is now a political independent. As an expert on financialization, he takes some pride in the fact that he is not trained an economist,.

Failed intelligence and military interventions of American imperialism are characterized in other recent books. Stephen Kinzer, an award-winning foreign correspondent for the *New York Times*, provides a history of American intervention in Hawaii, Cuba, Puerto Rico, and the Philippines, dating back to the late 19th century. His book entitled *Overthrow* (2006) also chronicles the covert actions of the CIA during the Cold War, and subsequent American invasions of Lebanon, Grenada, Panama, Afghanistan, and Iraq. Tim Weiner, a Pulitzer prize-winning reporter for the *New York Times*, writes a more detailed history of the CIA's covert activities in his book *Legacy of Ashes* (2007). His systematic review of the 60 year history of the CIA shows that it has not been able to carry out its central mission of informing the President of what is happening in the world, and is not likely to be able to rise from its current demise (ashes) in future years.

Two other books detail the highly significant role of the private corporation in the American Empire. John Perkins, an *economic hit man* for an international consulting firm brokering the corporatocracy's exploitation of the Third World, writes about his experiences in Asia, Latin America, the Middle East, and Africa. His book, *The Secret History of the American Empire* (2007), links transnational corporations, the World Bank, IMF, and USAID, with covert policy and military support from the US government. Jeremy Scahill's *Blackwater* (2007), shows the rise of *privatization* within the military/industrial complex as a means for conducting war, governance, and the control of democracy in developing countries. Scahill is a Polk award-winning journalist.

We conclude this section with several recent books on the economics of empire. Naomi Klein's *The Shock Doctrine* (2007) shows how economic shock doctrine, as pioneered by Milton Friedman (*Capitalism and Freedom*, 1962) and his Chicago School, came to dominate both America's international and domestic economic development policy during the past 50 years. It is a violent system that seeks to search out and destroy any public sector function except *maintaining law and order, enforcing private contracts, and fostering competitive markets* (5). Terror, social disorder, and even torture have been used for implementation, as in the very first application of the strategy in Pinochet's Chile, as well as in many other subsequent settings in Latin America, Africa, Asia, and Russia. The doctrine was also applied, at Friedman's specific suggestion, to the privatization of the New Orleans school system in the wake of Hurricane Katrina, in 2005. Similarly, Sandy Springs, a wealthy suburb outside Atlanta, became the first corporate "contract city" in 2005. It is designed to operate essentially without government employees, and without responsibility for any of the nearby poor neighborhoods or the services that they require.

Joseph E. Stiglitz, a Nobel-prize winning economist in 2001, now a University Professor at Columbia University, points out that the Friedman models *assumed perfect information, perfect competition, and perfect risk markets* (all invalid), *and were never based on solid empirical and theoretical foundations* ("Bleakonomics," 09-30-07). Although Friedman called himself a market *liberal*, most of his US followers called themselves *laissez faire conservatives*. In most of the world, this orthodoxy is called *neo-liberalism*, but in the 1990s, the movement, as it harnessed the full force of the American military machine in service of the corporate agenda, came to be known as *neo-conservatism* (Klein, 14-15). Klein is a Canadian journalist, author, and activist well known for her political analyses of globalization.

Stiglitz's own most recent book, *Making Globalization Work* (2006), critiques the vast shortcomings of global economic policy, and argues for reform of global institutions, including the World Bank, the IMF, and the United Nations, as well as international trade agreements and intellectual property laws to treat developing countries more fairly. He also advocates a new system of global reserves to overcome global financial instability, and suggests new ways of overcoming the impasse on global warming. Many of his recommendations were presaged by Soros, in his book entitled *George Soros on Globalization* (2002 and 2005).

Ha-Joon Chang's *Bad Samaritans* (2008) enters the debate on globalization and social justice by attacking the orthodox free trade dogma of Thomas L. Friedman (*The Lexus and the Olive Tree*, 1999, and *The World is Flat*, 2005) and other neo-liberal economists, with a contrarian history of global capitalism, citing examples of what has actually happened in many countries, including Mozambique, South Korea, Mexico, Ivory Coast, Zimbabwe, Zaire, Indonesia, Finland, Germany, and Japan, as well as Britain and the U.S. Chang points out, that all of today's economic superpowers attained prosperity by protectionism and government intervention in industry.

Promoting free trade through first world proxies such as the World Bank, IMF, and WTO (often called *the Unholy Trinity*) may benefit the first world, but does not lift developing nations out of poverty. Developing countries must have open access to patents, copyrights, and technology. Many developing countries had higher GNP growth with central economic planning than they did after being pressured into deregulation. Chang argues that the U.S. should return to its abandoned role in programs such as the Marshall Plan, to offer a helping hand in development. Chang has taught in the faculty of economics at the University of Cambridge since 1990. He consults with the United Nations, World Bank, and the Asian Development Bank. He has published eleven books, including *Kicking Away the Ladder*, winner of the 2003 Myrdal prize. In 2005, he was awarded the Leontiff Prize for Advancing the Frontiers of Economic Thought, whose previous recipients included Amartya Sen and John Kenneth Galbraith.

2.3 Fiddling While America Burns

Nero Claudius Caesar Augustus Germanicus was the fifth and last Roman Emperor of the Julio-Claudian dynasty. He

ruled from 54 to 68, and is known as the emperor who “fiddled while Rome burned.” We appear in today’s succeeding empire to be just as comfortably complacent about the widespread acceptance of neo-liberal economic doctrine, literally in the face of global warming, widespread imperial warfare, and explosive social and economic problems at home.

Thomas L. Friedman’s *The World is Flat* (2005) is a highly popular and widely accepted case in point, deriving from his work as a syndicated columnist for the *New York Times*. The stated premise of the book is that the salient cultural, political, and economic differences among peoples around the world are being beneficially eliminated by technological and communications advances and the operations of globalized free trade. Friedman assumes unquestioningly that technological determinism is not only a fact, but that it is good for all people, despite huge differences in their economic power and their ability to access and utilize new technologies—not to mention the huge disadvantages suffered historically by low income nations and people as a consequence of free trade, as demonstrated by Chang (2008).

Friedman’s technological determinism does not consider the monopolistic and oligopolistic power of the transnational corporations involved, nor the negative social, economic, and community impacts of technological change imposed from outside, which Schumpeter called *creative destruction* (*Capitalism, Socialism and Democracy*, 1975, 1942). Creative destruction is not a game that all people, with vast differences in skill and power, can win without assistance, but Friedman suggests no safety net. The need for caring communities, governments, and overriding social purposes for economic activity cannot be ignored, however. Technological education and sophistication are not enough: political and social maturity and cultural sophistication are also needed, and we must extricate ourselves from the pervasive war economy in which we are entrapped, boiling up largely from the huge and growing differences in socio-economic welfare around the world.

The question of how to finance American imperialist wars and global domination remains the great unanswered American policy question, according to Chalmers Johnson, in his article entitled “Going Bankrupt: Why the Debt Crisis is Now the Greatest Threat to the American Republic” (01-23-08). Our national debt has exceeded \$9 trillion for the first time ever. Our military budget is at least 10 times as much as China’s, which ranks second in military expenditures. Profligate military Keynesianism cannot substitute for the erosion of our manufacturing base and our balance of trade deficit (worst in the world), and we are failing to invest in social infrastructure and the long-term health of our nation, while reducing taxes for the wealthy. The pattern is simply not sustainable.

Further, according to David Leonhardt, in “Seeing an End to the Good Times (Such as they Were)” (03-08-08), the recession of 2008 is now unavoidable. The National Bureau of Economic Research defines recession as *a significant, protracted decline in activity that cuts across the economy, affecting measures like income, employment, retail sales, and industrial production*. Most American households are not now earning as much as they did in 1999, adjusted for inflation, and it may be a full decade before most Americans receive a raise. The number of officially unemployed rose by half a million persons in 2007, while the number of persons outside the labor force (neither working nor looking for a job) has risen by 1.3 million persons. The Bush administration’s economic stimulus package program will not begin sending out its rebate checks, in amounts up to \$1,200 for couples, plus \$300 per child, until May of 2008.

Stephen Lendman, in “Greenspan’s Dark Legacy Unmasked,” distributed on the World Wide Web, reports that Alan Greenspan’s new book, *The Age of Turbulence* (2008), makes a number of revisionist claims concerning his record as Chairman of the Federal Reserve 1987-2006, to wit: he did not support the Bush administration’s regressive tax cuts for the rich, when in fact he did support them in remarks before the Senate Budget Committee in 2001; he claims no responsibility for the 2000 stock market bubble, when he could have raised interest rates, margin requirements, etc., but failed to do so; he claims no responsibility for the housing and bond bubbles of 2007, when in fact he had cut interest rates to 1% and flooded the markets with liquidity; and that he shared no responsibility for allowing the U.S. debt to triple to more than \$40 trillion. Because of these and other actions on social security and income tax cuts, the wealth gap started to widen during the Reagan administration and continued through the Clinton and Bush administrations so that the wealthiest 1% now owns 40% of global assets, and the top 10% owns 85% of them; the top 1% in the U.S. controls one-third of the nation’s wealth, and the top 20% controls 84.7%, while the bottom 80% control only 15.3%. The poorest 20% are in debt, owe more than they own, and face a steadily worsening situation.

We close this section with two books on jobs. Greg Leroy’s *The Great American Job Scam* (2005) details the many self-serving corporate strategies devised to avoid taxes and subsidize jobs. William Greider’s Foreword warns that public monies should always be used for public purposes that benefit *everyone*, including *future generations*. Business basics always drive site location, but taxpayer subsidies for jobs cost states and cities \$50 billion per year. We should beware those corporations who are only interested in low wages and low taxes, and are also anti-union, anti-city, and anti-rust belt—cannot be counted upon to pay their fair share, and are entirely foot-loose and fancy-free. Property tax abatement is seriously counter-productive in the long term, because property taxes are the single largest source of revenues for public education. Subsidies for them sprawl the big-box stores and are counter-productive in energy, resource costs, and pollution (but 90% of Wal-Mart locations were subsidized in 2004, costing taxpayers \$1 billion). Convention centers now chase fewer and fewer dollars and fail to generate significant jobs. Skills and infrastructure for the long-term are the big losers in the subsidy game, which always favors the private sector. Reforms must include job quality and environmental standards, safeguards against unilateral decision-making, and emphasis on skills

development and infrastructure, rather than corporate handouts. LeRoy is founder and director of *Good Jobs First*, a national resource center promoting government and corporate accountability in economic development and smart growth for working families.

Louis Uchitelle's *The Disposable American: Layoffs and their Consequences* (2006) shows that there has been a steady dismantling of government job security protection during the period 1977-97. The Clinton administration disconnected the Democratic Party from its labor-oriented past with NAFTA, GATT, and WTO. Clinton's *layoff, retrain, and reemploy* formula was based on corporate positions on *efficiency* and *profitability*. Layoffs are devastatingly destructive of worker self-esteem and social capital, but are almost never considered in the short-term profit calculus. Reforms must include the following: *community* as the true basis for job security; a minimum wage of \$12; legalized stoppage of bidding wars for economic development between states; public investment in infrastructure; CEO salaries limited to cash; minimum severance pay packages for laid-off workers; living wage ordinances and employee associations; and restoration of traditional obstacles to layoffs, including just cause. Uchitelle has been a business, labor, and economics reporter for the *New York Times* since 1980, and won a George Polk award for his work in 1996. He also has taught at Columbia University and served as a visiting scholar at New York's Russell Sage Foundation.

2.4 Flaws of the Post-War Social Contract in America and the World

Social Contract is generally defined as the set of agreements by which people form nations and maintain social order for mutual benefit, consensually giving up some rights to government in return for social order, e.g., including rights to enjoyment of personal property, self-preservation, economic and environmental sustainability, etc. Jean-Jacques Rousseau defined *popular* [holistic] sovereignty, in 1762, as consistent with direct but not representative democracy.

The following four points, based on the previous discussion, provide a convenient summary of the ways in which our social contract has been abrogated:

1. *The Myth of the Free Global Market*. Public perception of the so-called "free market" is controlled by think tanks, corporate spokespersons, friendly media commentators, and universities (nearly all of whom promulgate neo-liberal and neo-conservative business theory). The "free market" is merely a euphemism for letting business set its own rules. That market is neither free nor democratic.
2. *Growing Inequalities in Income and Wealth Distribution*. Despite three decades of deregulation, privatization, tax cuts, public services cut-backs, and more extreme income inequality than ever before, consideration of government intervention remains highly unwelcome in many quarters, even in the context of the impressive economic growth of recent years. This results from corporate political pressure to protect the benefits of economic growth from being shared equitably.
3. *Trans-national Corporate Placelessness*. Trans-national business is not anchored by place or nation, and its leaders feel no responsibility for the social welfare of the communities in which they operate. Higher education, in its inexorable appetite for funding from whatever source, is the all-too-willing handmaiden of prevailing corporatist governmental and business interests.
4. *Military Keynesianism*. The overall socioeconomic context of globalized business is shaped by the dominant imperialist presence of the United States. Its economy is driven by "military Keynesianism," a force so powerful and firmly entrenched that it has destroyed the democratic basis of all three branches of the American governmental system, as well as the independence of both its major political parties (Johnson, 2006, Ch. 7). This force creates many negative and counter-productive impacts around the world, including pre-emptive warfare oriented to control of oil resources, reactionary terrorism, environmental degradation, socioeconomic degradation, and the pitiable engagement of smaller nations in the common, non-democratic, counter-productive socio-military enterprise. This approach is not realistically sustainable.

2.5 Finding a Way Out

The key to building a new social contract lies in generating a much more inclusive and widespread culture of democracy. For new inspiration from an old source, we turn to an examination of our democratic roots, particularly to the idealism embodied in powerful pamphlets written by Thomas Paine more than two hundred years ago. Paine, more than anyone else, turned Americans in revolutionary times into democratic radicals, articulating a unique American identity charged with exceptional purpose and promise. His salient contribution is delineated by Harvey Kaye in *Thomas Paine and the Promise of America* (2005).

The most recent manifestation of Paine's ideals occurred during the Civil Rights movement of the 50s and 60s, constituting a second American revolution. Martin Luther King pushed Lyndon B. Johnson into securing passage of the 1964 Civil Rights Act and the 1965 Voting Rights Act. Many other reforms and new programs also came during this period: LBJ's programs also included the War on Poverty, the Great Society, and reforms that included Medicare, Medicaid, Headstart, federal aid to education, job training, consumer and environmental protection, cabinet level departments for housing and transportation, national endowment for arts and humanities, freedom of information laws, and the Immigration Act of 1965. Meanwhile, the Warren Court advanced civil rights and liberties with *Engel v. Vitale* (1962), banning school prayer, and *Miranda v. Arizona* (1966), protecting the rights of the accused. After Warren's

retirement, the Court's *Roe v. Wade* decision of 1973 guaranteed a woman's right to terminate pregnancy.

But the years 1964-65 were the high point. LBJ then committed the nation to imperial war in Vietnam (money that could otherwise have been invested in his War on Poverty), racial injustice and riots proliferated, and movements arose for other minority rights and hedonistic counter-culture objectives. The Left splintered along lines of class, race, and gender, and Paine's motivating ideals were lost in the process.

A recent article on the Portside website by Michael K. Honey, "The Legacy of Martin Luther King, Jr.: Defending the Right to Organize," reminds us that King's leadership paved the way for Barack Obama's 2008 *presidential campaign of hope*. But at the same time, many of the democratic advances of the 20th century are in jeopardy today, notably the right to organize unions, without which working people have great difficulty raising their incomes and improving their lives. Senator John Edwards, in his presidential campaign, characterized the current immigration problem as fundamentally a labor problem, caused by "free trade" laws that have displaced both agricultural workers from Mexico and well-paid union members from their American industrial jobs. Wage pressure on these workers is high, and labor organizing laws are stacked against the workers on both sides, with the result that only about 12 percent of American workers now belong to unions.

On April 4, 1967, Martin Luther King, Jr., said, "We as a nation must undergo a radical revolution of values. We must rapidly begin the shift from a thing-oriented society to a person-oriented society. When machines and computers, profit motives and property rights, are considered more important than people, the giant triplets of racism, extreme materialism, and militarism are incapable of being conquered." When MLK was assassinated in Memphis, in 1968, he was fighting for the right of Memphis sanitation workers to organize unions, for economic equality. He recognized that unions had paved the way for the Civil Rights movement and said that unions were the best anti-poverty program available to low-income people. He wanted his Poor People's Campaign to go to Washington to demand that money allocated for the Vietnam War be allocated instead to abolish poverty. He saw labor rights, civil rights, and human rights as indivisible. Today, King's call "to planetize our movement for social justice" remains a crucial priority. We must help workers in other countries organize so they do not have to emigrate, and we must also strengthen laws to allow organizing and reignite our own multiracial coalition, thus rejuvenating King's campaign to end both war and poverty. Honey is professor of humanities, University of Washington, Tacoma.

Barack Obama is not generally perceived as an advocate of radical socioeconomic change, but his campaign rhetoric does contain the seeds of hope and possibility for things that can only be done *together*, perhaps in the form of a new or continued social movement. His book, *Dreams of My Father: A Story of Race and Inheritance* (1995, 2004), outlines his sensitivity to poverty and alternative cultures around the world, together with his significant experience in community organizing in the low-income, predominately black areas of Southside Chicago. David Sirota's recent web article, "Hope in the Time of NAFTA" (03-07-08), states that Obama has been a long-time critic of NAFTA and that Obama's economics advisor, Austan Goolsbee, is the only remaining presidential campaign advisor openly and seriously considering the fairness of so-called free trade arrangements like NAFTA, while the Clintons have been staunch supporters of NAFTA since its inception. Both campaigns apparently provided back-door assurances to Canada's right-wing government regarding continuance of NAFTA, while opposing it in their campaign rhetoric in the Ohio primary. However, Clinton came down hard on Obama's "duplicity," just before the primary, while her own back-door Canadian conduit did not come to light until later.

The relationship between democracy and capitalism comes under scrutiny in Robert Reich's book, *Supercapitalism: The Transformation of Business, Democracy, and Everyday Life* (2007). Reich was Secretary of Labor in the Clinton administration and is now professor of public policy at the Goldman School of Public Policy at the University of California at Berkeley. Super-capitalism is *defined* by growing disparities in wealth and income, greater job insecurity, global warming, and the weakening of democracy everywhere (despite the claims of Milton Friedman) since 1970. As labor unions and government regulations came undone, power shifted to corporations and investors, destroying requisite balance between the sectors. Accordingly, Reich supports a new effort to keep business and politics separate. Corporate money flowing into elections should be "limited," and only citizens should be allowed to participate in democratic decision-making, not corporations. Voluntary corporate responsibility should be replaced by regulation. Corporations should no longer be treated under the law as persons, corporate income taxes should be levied on shareholders (not the corporations), and individuals rather than corporations should be held responsible for criminal conduct. Government should invest in helping American people become more competitive, not corporations. The objectives seem worthy enough, but appropriate means of implementation are not articulated. Those in power will not likely give up their prerogatives without a bargaining process, a fight, or a super-ceding economic model.

Powerful arguments re: the needs for innovation within the prevailing laissez-faire (neo-liberal) economic model are presented by Dijana Mocnik and Matjaž Mulej (2008). These include the rapidly growing inequality of global wealth distribution, the absence of a global environmental ethic and its growing costs, and five distinct types of poverty. Long-term and society-wide benefits have been perilously disregarded. Dr. Mocnik is a member of the Faculty of Electrical Engineering and Computer Science at the University of Maribor (Slovenia), and Dr. Mulej is Emeritus Professor of Economics and Business at Maribor, as well as current president of IFSR (International Federation for Systems Research). An earlier paper by Dejan Avsec and Matjaž Mulej (1998) proposes an adapted form of universal stock-ownership (USOP) as a way of assisting the four-fifths of the world's population who live in poverty, who

themselves cannot become entrepreneurs, to share more equitably in global economic product. Dr. Avsec was general manager of Nova Ljubljanska Banka, in Krsko, Slovenia, when the paper was written.

Emphasis on more locally oriented economic development is also necessary. That is the argument presented by Bill McKibbin in his book, *Deep Economy: The Wealth of Communities and the Durable Future* (2007). McKibbin's key idea is that we need to move beyond macroeconomic *growth* to a new focus on sustainable *local prosperity*, with local production of food, energy, culture, and entertainment—an idea already blossoming around the world in India, China, Europe, and New England. Farmers' markets, for example, are the fastest growing part of the food economy. Economies organized at community scale use fewer resources, cause less economic disruption, generate more social benefits, and are better able to withstand shocks. The community building process is crucial, and we should supplement GDP with a *happiness index*. We should emulate *cooperation* in Kerala State (southern India) as the big model of success, in political participation, longevity, 100 percent literacy, and social equality, if not in GDP. McKibbin is a scholar-in-residence at Middlebury College, and the author of ten books.

In the same vein, Michael Pollan's *In Defense of Food: An Eater's Manifesto* (2008) attacks the *industrialization of eating*, supported by *nutritionism* (the reductionist nutrient-by-nutrient approach to dietetics). Obesity and the chronic Western diseases (including cardiovascular disease, hypertension, stroke, diabetes, dental decay, and diet-related cancers) are linked to the industrialized Western diet: processed foods and meat, added fats and sugars, large quantities of everything except fruits, vegetables, and whole grains. Genetic and demographic (longer life) explanations do not really hold up. But we are now working towards a more ecological understanding of diet and health, which link human diet, the food chain, and the quality of soil and grasses. The dangers of synthetic nitrogen fertilization, which simplifies the chemistry of the soil, are also becoming more apparent.

We should think of our food more as a part of the ecological web and less as a stand-alone variable. In this way we can begin to understand the food interdependencies among species, and that evolutionary change is part of the process of adaptation to new foods, as in the evolved human ability to digest milk (lactose). An ecological perspective shows us that the Western diet represents a radical and abrupt set of changes that humans are having great difficulty adopting, resulting in their poor health. We must therefore escape the Western diet, and spend more time gathering, preparing, and eating our food. Pollan's shorthand recommendation on what we should eat, to be maximally healthy, is "not too much food, mostly plants." Pollan is Knight Professor of Journalism at Berkeley and is the author of four previous books, including *The Omnivore's Dilemma* (2006).

We close this review of pertinent books and articles with Zbigniew Brzezinski's *Second Chance: Three Presidents and the Crisis of American Superpower* (2007). Brzezinski shows that during the last three American presidencies, insecurity has grown more pervasive, nuclear capability has spread to four more countries, progress on human welfare has been sporadic, and the environment has not gained high priority. He argues that the U.S. must reinvent itself through *cultural revolution* and *cooperative governance*, and that nothing could be worse for America than that its policy continues to be viewed as *arrogantly imperial* in a post-imperial age. In that case, he says, "the crisis of American superpower would become terminal" (215-216). Brzezinski was National Security Advisor to President Carter. He is also a member of the Council of Foreign Relations and a principal foreign policy advisor to Barack Obama.

2.6 Conclusions: Parameters of a Sustainable Social Contract

1. *More Inclusive, rather than Direct or Representative Democracy.* Our analysis shows that more *inclusive* democracy is crucial to America's future. We must therefore encourage it through the decentralized operations of civil society, abolish the encroachment of military intelligence on civil liberties, restore democratic checks and balances among the various branches of democratic governance, institute publicly-financed elections, and abolish the economic strangle-hold of the military-industrial complex. Not really possible in the current time and circumstance? Then the next best answer, according to Chalmers Johnson (2006), is to give up empire in of the republic, as Britain and France have done, to their great credit. With shared rather than imposed responsibilities and governance, a new and sustainable world social order could be permitted to emerge. Also difficult, challenging, and dangerous? Yes, but do we have other reasonable options?

2. *Community Support.* Recognize and embrace the stakeholder interests of long-term employees and their communities. Recognize the role of higher education as a responsible *leader* of positive social change, engaged in community but not beholden to the parochial interests of nation, big business, or any form of exclusivism—military, religious, or otherwise—at any level of social organization.

3. *Conception of the Market as a Complex Ecology.* Align corporate thinking with goals of society as a whole: allow more extensive citizen participation in ownership, management, and socioeconomic benefits, including environmental quality. Treat the market as an ecology that requires smaller players in much larger numbers as compared with the intermediate and macro-economic players, in order to distribute energy, information, and money in ways that are optimally beneficial to the entire system. Implement new economic theory, including *fractal theory*, as an integral part of the ecological approach, thus increasing democracy in the market place (see Dyck, 2006; Goerner, Dyck, and Lagerroos, 2008). *Reinvention* of the equilibrium-based, classist, exclusivistic orientation of prevailing economic theory and practice is required. Active balance between the powers of the public and private sectors will also be necessary. Proportionate powers are required to foster economic and social equity, as well as sustainability.

4. *Universal Access to Capital*. Regulate the speculative excesses of today's financial markets. Assure universal access to capital, in both large and small amounts, to all socially responsible innovators and entrepreneurs. Support entrepreneurial innovation with management expertise and systems training.

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3. Can a pure market economy exist today?

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Abstract

Recent years have seen a renewed interest in comparing different types of market economies, or capitalist systems. A free market, laissez-faire program has increasingly dominated perceptions as to what is the correct, i.e. requisitely holistic, economic theory and policy in the innovative society and economy. We discuss an important role of the state in both types of market economies – coordinated as well as liberal ones – and ideological construct of laissez-faire that has been quite successful in convincing that a supposed free market is the best guarantee of free enterprise and individual liberty. As an ideological construct, laissez-faire has had an enormous impact on ruling people's concept of proper economic and social organization and policy. Current endeavors of governments who have great difficulties in guaranteeing full employment and stable domestic markets resulted in the reduced work security and reliability of wages, reductions in pensions and social security payments. As a result, we need alternative economic theory open to stances critical of extreme free market capitalist positions and more attuned to the presence of alternative (and potentially competing) perspectives that more closely mirrors the increasing rates of unemployment, homelessness, poverty, illiteracy, disease and pollution in the world.

Keywords: free market economy, institutions, coordinated market economies, liberal market economies, innovative business, requisite holism

3.1 Introduction

Peter Hall's and David Soskice's publication (2001) is only a culmination of a voluminous literature in political sciences on this issue. In economics, the collapse of the social system has precipitated substantial interest in comparing different types of capitalist systems (Pistor, 2005; Baumol, Litan, Schramm, 2007). Observers of European economies have long noted differences across economic systems that are all built on principles of market economies, yet apply them quite differently in practice. Much of this literature has focused on the distinction between corporatist and market systems. Indicators for corporatist systems have varied substantially across the literature; attempts to standardize them have not been entirely satisfying. Indeed, there is little correlation of what different scholars proclaimed to be the core characteristics of corporatist systems (Pistor, 2005). Soskice (1990) proposed to simplify the classification and distinguish only between coordinated (CMEs) and liberal market economies (LMEs). Following Hall and Soskice (2001) LMEs are "economies in which firms coordinate their activities primarily via hierarchies and competitive market arrangements"; "the equilibrium outcomes of firm behavior are usually given by demand and supply conditions." CMEs, by contrast, are economies in which firms depend more heavily on non-market relationships to coordinate their endeavors.

However, an important role of the state is implied in both types of market economies. The state provides the public good by law and institutions; in their shadow parties can negotiate, and re-negotiate private contracts, and on them they can rely for enforcing their contractual rights and obligations. The state also plays an important role in safeguarding competition by antitrust regulation. In CMEs, a more expansive role of the state is typically assumed. This role can include coordinating bargains among social partners (labor and employees), or may amount to increasing interventionism (Avdagic and Crouch, 2006).

In the following, we discuss the role of institutions, pressures of internationalization, and ideological construct of laissez-faire that has been quite successful in convincing that a supposed free market is the best guarantee of individual liberty. Is it so indeed?

3.2 Growing internationalization of economic activities put pressure on national economies

Given the growing internationalization of economic activities, national economies restructure their social welfare policies and try to cut down expenditures. The new structures move towards neo-liberal policies to be accomplished by consultation, participation, dialogue among organized interests on one hand, and by increased marketization of labor issues on the other hand. However, rather than tackling explicitly social and redistributive issues, the new pacts are about meeting some common requirements and improving external competitiveness. Trends of liberalization have been on the whole much more pronounced. Current endeavors of governments who have great difficulties in guaranteeing full employment and stable domestic markets resulted in the quest of how to distribute uncertainty (Henry, 2008). In the case of stronger capital, labor is pressed to bear greater share of uncertainty by accepting reduced work security and reliability of wages. Greater price stability can be achieved through lobbying for reductions in pensions and social

security payments, which in turn reduce security for the workforce and the total demand in markets. Thus, the protection of the workforce has declined or been removed, including a negative impact on economy that forgets about interdependence of demand and supply. It is inevitable that some lives will be (or already are) more insecure than others (Varuh, 2008). Employees in transitional/late-comer countries face the realities of an entrepreneurial economy that no longer guarantee employment as it was in economies of the previous socialist countries when wages and social benefits were reliable. Their shock is much greater: (1) they entered in the current capitalist economy during its most prolonged turbulent period since World War II; (2) their weak economies had to face exceptional adjustment that involved comprehensive institutional changes and simultaneous adoption of several neo-liberal policy packages. Thus, the burden of insecurity accompanying a global shift to the new socio-economic regime appears to be even greater than in western countries, as the “new” countries only recently have started to build and develop their market institutions and habits (Mulej, 2006; Potočan and Mulej, 2007). This is not to say that interest representation and industrial relations institutions in western countries are resistant to change; their process has been more gradual because of institutional inertia, vested interests, and institutional complementarities that characterize long-standing and well-entrenched institutions (Mulej, 1994; Avdagic and Crouch, 2006); in addition, they did not have to catch up. In contrast, with new institutions – especially if a socio-economic system experiences a wholesale replacement of institutions as in the so-called post-communist Europe – they are likely to be less entrenched making new institutions weak in constraining and structuring actors’ behavior (Henry, 2008).

3.3 Ideology of the laissez-faire concept

In the current period quite forcefully, laissez-faire has become equated with not only free enterprise or free markets, but freedom itself. That is, the freedom of the individual is defined as freedom from any form of coercive authority – or, in conventional terms, of the government. This reflects Adam Smith’s times of fear from feudal abuses (Stalinism is close to these abuses, see: Mulej, 2006.). From this viewpoint, all non-individualistic, collectivist (in any form) forms of organization seem to reduce or eliminate freedom. Laissez-faire, then, has enormous appeal on the ideological front; it diverts attention from any examination of the economy itself. Success or failure is seen as a consequence of individual effort. The poor and others disadvantaged by the anti-interventionist program, then, would really have no one to blame but themselves for their plight (Henry, 2008).

As an ideological construct, laissez-faire has had an enormous impact on ruling people’s concept of proper economic and social organization and policy. Why is this so? What is contained in the laissez-faire ideology that speaks so compellingly to such large segments of the population, particularly populations in the advanced sections of the capitalist world? To address this issue, one must turn to the dawn of the laissez-faire ideology and situate these ideas in their social context. Laissez-faire evolved from the concept of natural law, which was gradually linked to the concept of natural order (Henry, 2008). Laissez-faire arose in the context of the transition from a feudal to a capitalist society in times of Adam Smith; it seemed to happen naturally. The natural order argument led directly to the concept of natural liberty – individual freedom (Henry, 2008). Henry (2008) stated that freedom was directly associated with the freedom from feudal political authority, freedom of religion, and freedom of property. To buy and sell one’s property, in particular land, is absolutely necessary for a capitalist economy to survive. Thus, the advocates of the capitalist society were not against government or government intervention in society or economy. They opposed a government operated by the nobility. According to Hollingsworth (1998), the view that markets are objective allocator of resources and the most efficient way of organizing economic and human life also stems from the dominant interpretation of modern European history: the simultaneous spread of markets and political democracy is assumed to be caused by the free market. However, new patterns of economics power that markets create are detrimental to democratic aspirations (Hollingsworth, 1998).

The current political and ideological program sur-rounding the inculcation of laissez-faire as the standard by which policy should be judged begun in the 1930s, reached maturity in the late 1970s and 1980s, and has now ripened into full flower. From its very beginning, this program has been organized, nurtured, and, now, well-funded (Aune, 2001). Its ascendancy did not result from its theoretical superiority but from a well-articulated, long-run “vision” that was originally conceived by intellectuals, underwritten by business and political leaders, and supported by many moneyed organizations and individuals with vested interests in promoting free-market ideology and policies (Henry, 2008; Aune, 2001).

Now, as a practical policy, laissez-faire is only honored in the breach. It is a useful ideology providing a façade under which large corporations – that certainly violate every underlying assumption on which the free market-optimizing conclusions are reached – are increasingly organizing the world in their own narrow interests, promoting their programs, denigrating certain activities, and punishing their theoretical or political rivals. Actually, laissez-faire has never been implemented on a wholesale basis. Rather, it is a program employed selectively to accomplish particular objectives. Therefore, the answer to the question posed in the title of the paper is that the market alone is incapable to assure the holistic and efficient functioning of the economy. Rather, both of them – markets and institutions – are equally needed.

The market-based notion of freedom coupled to specific “reforms” – reduced taxes, balanced governments’ budgets, promise of less government interference in individual’s life, etc. – and “family values” was quite successful in

convincing many, perhaps most of the citizenry that a supposed free market is the best guarantee of individual liberty and economic success. (See: Frank (2004) for a popular analysis of the relation between laissez-faire ideology and specific economic and cultural recommendations that have convinced many to support programs that match interests of large corporations and wealthy individuals, not their own.)

Baumol et al. (2007, 193) quote Adam Smith: 'As every individual, therefore, endeavors as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labors to render the annual revenue of the society as great as he can. He, generally, indeed neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; *and by directing that industry in such a manner as its produce may be of greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.* Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it (emphasis added) (Smith, 1976, 351).'

Thus, the laissez-faire economy is run by the invisible hand of the self-interest and market (to which A. Smith as professor of moral and ethic has added religion in his earlier book on Moral Sentiments, preceding the one on Wealth of Nations and its basis).

If market controls business persons, the question arises: who controls the market? And the additional one says: who and how defines one's own interest: is it only a short-term and narrow-minded definition or the longer-term and broader interests are included? Hence: is market not composed of humans; is monopoly not closer to human hearts than competition, if possible?

Baumol et al. (2007) do not tackle these issues that we find crucial when they discuss what capitalism is best for growth (not for human happiness!!). They find that now capitalism is the only socio-economic system around and classify economies of various capitalist countries into four categories (p. 60-61):

1. State-guided capitalism, in which government tries to guide the market, most often by supporting particular industries that it expects to become 'winners';
2. Oligarchic capitalism, in which the bulk of the power and wealth is held by a small group of individuals and families;
3. Big-firm capitalism, in which the most significant economic activities are carried out by established giant enterprises; and
4. Entrepreneurial capitalism, in which a significant role is played by small, innovative firms.

In this connection they also quote Hall and Soskice (2001) as we do, and find a mixture of the 3rd and 4th type the best version for growth and prosperity.

Baumol et al. (2007) accept capitalism only and never ask the question raised by Porter (1990, 2006):

- 1 if the oldest basis of a nation's/region's competitiveness are natural resources and make a poor life,
- 2 the 2nd phase is investment, which helps foreigners more than locals, then
- 3 the 3rd phase is innovation creating wealth most of all phases; this leads to
- 4 the 4th phase – the affluence. It is both the most desired phase and blind alley: it ruins the need for ambition to work in order to have, because one has everything.

They do not even quote Porter in their references. On p. 228 they briefly tackle the problem by the quote: 'Success breeds complacency. Complacency breeds failure. Only the paranoid survive.' It is attributed to Grove, cofounder of Intel Corporation, and it serves as a summary of the chapter titled 'The care and maintenance of entrepreneurial capitalism'. This type is closest to the laissez-faire. In other words, they tacitly agree the laissez-faire cannot survive on its own. For its consequences see e.g. James (2007). This means that there is no pure market economy in reality of today.

3.4 There is no such thing as a pure market economy

The necessity to investigate the intricate interplay between the market and the polity was first highlighted by Samuelson (1954).

One must distinguish between government interventions in society in general from intervention in the economy, specifically in market relations. We all agree that some supra-economic organization is needed for determining the rules within which the economy can function. Even Jean Baptiste Say, one of the most ardent laissez-faire advocates, saw government as the mechanism through which property rights or educational programs can be developed and enforced (Henry, 2008). Government was also necessary to develop a civil code that would enforce "proper" behavior to allow markets to function well (Hall and Thelen, 2006). This supports the requisite holism of human observation, perception, thinking, decision making, emotional and spiritual life, and action (Mulej, 1979).

Thus, while the economy might arise as a spontaneous natural order, it could only do so within a strongly interventionist government in the social order. This same view is also contained in Milton Friedman's very influential *Capitalism and Freedom* (1962), and forms part of the core argument of Austrian theorists (Henry, 2008). Such a stance, however, does not imply government intervention in the workings of the market. Once that market economy is up and running, adherents of a laissez-faire program confine their arguments to analyzing economic arrangements that appear

as des-embedded structures functioning within a framework initially established by the state-imposed rules of the game. The quest, then, is

- for a theoretical structure demonstrating that a free-market system, responding to its internal workings, leads to a smoothly operating equilibrium system where natural tendencies, left alone, generate optimal outcomes (Henry, 2008), and not

- whether or not institutions that enable the functioning of the economy are necessary.

Even A. Smith did not adopt laissez-faire as a standard by which economic relations and outcomes should be judged, although he is continually attributed as the “father” of (modern) economics ([1776] 1937); in Henry, 2008). Rather, laissez-faire was a policy recommendation only, if it was in conformity with larger social concerns, including concerns that clearly involved or resulted from the operations of a capitalist market economy (Henry, 2008).

Those who argue that governments are not needed for the functioning of the economy regard government behavior as being outside the realm of economic interest (Olters, 2001). However, economic expectations over wage demands, interest rates, inflation rates, budget deficits, and foreign direct investment – to name just a few – all require forecasts about the future behavior of policymakers, which in turn, is determined by the political party that forms the next government (Olters, 2001). It is illusive to expect that there is no politico-economic interaction. Only recently it has been recognized that the prestige of a political office drives politicians inasmuch as profits motivate entrepreneurs (Olters, 2001), which change the attitude of economists toward this sub-discipline in economics. According to traditional approach one assumes that the policy maker maximized a social welfare function (Olters, 2001). This means that a social planner is not constrained by any reelection considerations, should exhibit characteristics of omniscient, altruism, and absolute power. These assumptions violate fundamental economic axioms. Already in 1949 Buchanan hinted at the unsatisfactory nature and the inadequacies of the social planner approach by characterizing the government.

3.5 Need for more consideration of the requisite holism by ethics of interdependence and social responsibility – innovation of the innovation-based economy

The state-guided and the oligarchic capitalisms are explicitly under impact of the most powerful parts of population, the big-firm capitalism is no better able to ensure the preached laissez-faire capitalism, and the entrepreneurial capital alone hardly exists (Baumol et al, 2007). In Europe, USA, and Japan, statistically, the very prevailing majority of businesses are small and medium-sized (Rebernik et al., 2004); but they tend to sell to the big companies, mostly, and hence to depend on the big firms, state, or oligarchies, rather than to dictate the survival of the laissez-faire capitalism.

Since Adam Smith's times, when the modern economic theory had started to be created, the distribution of the global wealth has changed enormously: then the span between the richest and poorest large areas of civilization was less than 2:1, now it is 74:1 at least (Bourg, interviewed by Sciamia, 2007, 16; Ženko, 2007; Ženko and Mulej, 2007). The Swiss philosopher Bourg is far from being alone in the warning that the humans' current civilizations is ruining itself, because it has decided to consider no limitations in no areas. This is why Bourg speaks for a planetary ethic: ‘inequalities ran out of any proportions, which causes hyper-terrorism against the privileged ones.’ Also, there is ‘a great challenge to modernize the attitude of humans about the natural environment toward a global ethic’. It is clear from other research that the growth of wealth over the recent many decades is more an accountancy than a long-term economic success: the cost of renewal of the natural living preconditions of humans has been postponed rather than covered for so long that it is going to require tremendous means for the coming generations of humans to survive. Božičnik (2007) and Stern (2007) explain that in a best-case scenario this will cost about five percent of the world-wide GDP, which exceeds the cost of both world wars together, in another scenario even 20%. This might require all pay-roles around the world.

If the current fictitious version of the laissez-faire capitalism has caused such consequences, then it has not caused wealth of a small minority of humankind only, but also several types/causes of poverty (Mulej and Hrast, 2008), which can hardly be solved by a laissez-faire market alone:

1. Poverty of people with a natural condition making them hardly able to survive on their own in the current ‘laissez-faire’ economy: these are children, pregnant and parents of small children, ill, disabled, and old people; for them the current European-way solidarity remains necessary and must be embraced around the world.

2. People who are too poorly adaptable to the given ‘laissez-faire’ economy in terms of profession and area of living. To receive solidarity suitable to their specifics, they should be trained for more modern professions and educated for more modern values. They should stop valuing highly the out-dated values and accept innovation more. The latter requires more effort, but became the only current alternative for business and personal survival: it is the only source of employment and pay.

3. People who watch, perceive, think, decide, and act failing to be requisitely holistic and hence innovative, should also receive training for more current knowledge and values by solidarity.

4. People who cannot find jobs at home in Africa etc. due to power-holders, local and international entrepreneurs, managers, and owners acting with too little social responsibility. In this case, as because the suitable form of solidarity, preconditions for socially responsible behavior of power-holders etc. should be created.

5. The showing-up consequences of affluence that we have addressed briefly earlier (Porter, 1990, 2006), are causing the economic theory to lose ground. In affluence, supply exceeds demand a lot; there is no longer a lack of

resources, but a lack of needs. Suppliers try to create artificial needs (James, 2007; Prosenak and Mulej, 2007). Ruined nature and social instability are not simply side-effects and collateral damage, but threatening to become central. The cost of solving these problems will keep growing as long as the laissez-faire of the current type does not stop favoring narrow and short-term definitions of efficiency and effectiveness expressing the economic success. It must accept social responsibility criteria: doing good beyond legal demands in order to do well in a longer term, at least. A narrow-minded and short-term egoism pays less than a broader-minded and more long-term altruism, for egoistic reasons.

All five types of modern poverty can be ascribed to the modern fictitious laissez-faire economics and to the obvious fact that the Adam Smith's model is abused rather than applied. In his concept of invisible hand Smith required ethic of interdependence and social responsibility rather than the opposite, at least in a longer term. Then, market may serve humanity well.

3.6 Conclusions

As public policy, laissez-faire is not practiced and never will be practiced. As ideology, it continues to serve the interests of the major property holders, though the fight is no longer against feudalism: it's now against that property-less class that was wrought in the early stage of this social formation (Henry, 2008). The argument equating freedom with freedom of trade based on property rights is persistently promoted as applicable and beneficial to all, including to those who hold no property except that in their own labor. So, the supposed beneficial relation between laissez-faire ideology and specific economic and cultural recommendations has been successfully inculcated despite the fact that such programs run counter to the current and long-term interests of many disadvantaged groups of people while promoting the interest of large corporations and wealthy individuals (Frank, 2004; in Henry, 2008). As we have shown in chapter 3.5, in the longer term it can neither promote the interest of the latter. Even the concept of innovation to which the contemporary progress is attributed with full right requires to be innovated for criteria of success to include long-term and society-wide benefits and interests. Economic theory is outdated and must be innovated very quickly. Nixon (2004) quotes data proving this conclusion: 85% of the six billion people live on less than six US\$ a day, and one billion live even on one US\$ a day.

We need a theoretically sophisticated, empirically grounded, and truly "translocal" economic theory. Such a theory will broaden our understanding of transcultural exchange by placing greater emphasis on solving increasing rates of unemployment, homelessness, poverty, illiteracy, disease and pollution in the world. Attention to relationships between nations may be productive, especially if focused on the strategies through which some nations (or corporations) compete for global power at the expense of less powerful nations. It will probably be useful to address the relationship between culture, globalization, national identity, and gender. It is also important to consider that inequalities of globalization are no longer tied to specific geographic locations. According to Fabienne Darling-Wolf privileged members of "subordinated nations" might rise to the level of global elites, while subaltern members of powerful nations might fall to the level of global poor (2008, p. 194). Let us finally admit that laissez-faire is a façade under which large corporations are increasingly organizing the world in their own narrow interests. Neither the market nor institutions alone are holistic and efficient enough to assure the smooth functioning of the economy. Rather, both of them are equally needed, which they have always been, still are, and will be.

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4. INNOVATION TOWARDS ECONOMIC AND SOCIETAL REJUVENATION



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Abstract:

Innovation constitutes the kernel of any *development* not restrained to predestined paths. It originates *rejuvenation* adapting to change and opening future potentials. Even if the enterprise is the actual place where innovations are made and transferred into market and society, the preconditions for entrepreneurial innovation are given by the corporation as a *societal* institution and the surrounding society. Within society, innovation emerges a *holistic phenomenon*. To remain innovative, the corporate systems as well as society as a whole need continuously innovate. Innovations capacities on any societal level are closely connected. Entrepreneurial innovation may be seen as driver, indicator and symptom of societal innovation.

The increasingly dynamical and deep rooting change worldwide covers any level of life. Mere adaptation will not suffice, *basic* and *anticipative* innovations are challenged. – With the *innovative company* the *innovative society* must be reinvented. Essential proves the *openness* of society, of its economic rules and not least of the grounding in science and culture. The enemies of the open society are numerous [Popper 1963]; the range from contra factual ideologies to mental inertia, monopolization and on only-redistributive government policy. Most important appears a long term *strategy* encouraging innovation, creativity of the individual as well as learning institutions.

Innovation means decomposition of the obsolete. Little strategy cares for the anticipative balancing of societal faults. Urgently needed is a concise policy to further creative *motivation* and *mobilisation*.

Keywords: innovation, societal rejuvenation, basic strategy, encouragement, mobilisation

4.1 Prologue: Innovation for Rejuvenation

Change is accelerating on a global level, affecting the very cultural, economic and constitutional base of society. For the ‘old’ (Mid/Western) European societies the challenges arise twofold. First, both India and China have outgrown the first phase of the mere adaptation of Western technology. Increasingly both semi-continents set on to complement their science and knowledge base for genuine innovations of their own. Worldwide competition will no longer predominantly relay on low pricing but on *innovative products*. The different background in culture will lead to an *innovative culture* different from if related to the known European ones. The consequences will not include economy and the product market only. Behind *societal cultures* and constitutions will compete for markets, resources, power and a redistribution of life space. The European countries need to understand that they are forced to *rejuvenate their entire societal systems*. [Knez-Riedl et al 2001] Mere peripheral adaptation will not suffice. The rejuvenation ought to be fundamental. It will begin with the *education* systems, cultural, scientific and professional. It will imply *institutional choice* pertaining the social systems, the social ‘partnership’ relations in the economic sector and strengthening the role of the ‘mature’ citizen’. It will concern attitudes towards economic and social *performance*, individual contribution to society, social welfare and security systems. The general atmosphere of risk avoidance and what was called ‘*welfare without caring*’ is to be reversed to a *self-responsible*, active attitude. Dictation and pressure by minority groups irrespective of the common wealth must be curbed.

Awareness grows that tightening societal ossification and imbalances have reduced the capability to reform and rejuvenate. Yet it is scarcely understood that the historical phase transition after WWII now culminates. The decline of the nation state (and its pseudo-revival within a misused EU) [Prem Shankar Ja, 2006] falls together with the global shifts towards a profoundly different inner and outer environment challenging societies to adjust to. Ideologies neither right nor left will help, nor will clinging to obsolete rules and regulations. Reality and common sense to assess reality need be regained. The limits of space and natural resources exert an additional pressure. The more innovative will be the winner [Diamond 1999, 2005].

Rejuvenation is a harsh process producing losers and winners. Sensible *balancing* is asked which must not impede the innovation, but smoothes its transfer and cushion its destructive reverberations. Innovation itself constitutes a sensitive process, resting on the creativity of sensitive people, and on the acceptance by the customers representing the market. Thus creativity needs be furthered by favourable *atmospheres*, in the enterprise as well as generally in the society. [Csikszentmihalyi, 1996] Likewise institutions, rules and regulations shape the behavior of the people carrying the creative performance. Not least, innovation is in effect a ubiquitous process, pertaining to deep rooted and base habits, to base cultural value systems. *Values* like social justice, solidarity or responsibility have been distorted and

actively misused for political manipulation. For social innovation they need be re-instituted. On all levels of society the basic preconditions for a healthy, innovative development need be reconciled. The awareness of the systems and *systemic reality* so far clouded by ideologies is to be regained.

4.2 Meeting Basic Innovation Cycles

Economic development may be seen as proceeding in cycles, signified by innovations. *Developmental cycles* are signified by (outer and/or inner) environmental changes and the innovations or being triggered by environments. Historical studies distinguish roughly between three kinds of innovation. *Adaptive innovation*, representing predominantly continuous improvement, diversifies and spreads the use of existing constructions. The gradual development of the automotive tires contributes an example, or the fashion industry. *Major innovations* alter an existing product in constitutive qualities. Fuel injection can be cited as a typical case. Distinct in quality and consequences come *basic innovations* as e.g. the invention of the iron plough, the crossbow, or the generation of mechanical energy by combustion. Known are the basic innovation cycles of information technology: the valve, the transistor, the microprocessor within a distance of roughly 25 years. Of course the classification depends on the view: range of time, sector of development or specific consequences. Though, as from the crossbow, societal and economic effects may be indirect: they all affect the base of survival and development at both the economic and social level. Famous is the related discrimination between long range (Kondratieff) cycles (25–50 years), short term cycles (3–5 years) and intermediate time spans (about 7–10 years) economy cycles. When basic innovations coincide in time and technological field these may cause a *phase transition* economically as well as socially. In such a phase transition technology, economics and society will change fast or even abrupt in their entirety. The present phase of history is signified by such a coincidence of basis innovations becoming effective: e.g. the proliferation of atomic power, electronics dominating the technological evolution and Information and Communication Technology (ICT); the latter transmuting the very base of society. The transfer and the expansion into the societal domain, if already fundamental, have but just begun.

It is not to refer in detail to the well explored consequences of the example ICT. Focus is laid here on the impact of such basic innovations on general social/societal evolvement. Preponderant seems their capacity to urge their employ, to expand their domain, to diversify and to complement them by ensuing consecutive innovations. Unlike but peripheral improvements, the basic innovations as mentioned above, tentatively will change the basic features of individual, social and societal *behavior*. An early example presents the employ of the pill and the subsequent shifts not only in regenerative behavior co-causing demographic decline. In reverse and the impact of reliable contraceptives seems but consequential and material to the alteration of social *self-understanding* and *identity* in particular of the gender roles after WWII. The parallel and the following technological innovations as their societal impacts appear but a sequel filling the primary inroad paved by basic innovations.

In these cases, from an overall systemic view, the entire process of technological, social, societal and demographic shifting may be understood as the interplay of in se different, but developmentally closely related and interdependent partial processes. With reason the argument might be extended even to the limits of the space ship earth, to the boundaries of space, of resources, of carrying capacities and so on. This phenomenon of mutual co-impacting is still open to more thorough analysis, in particular using the methodology of the so called macroscopic research [Koratayev et al 2006]. Macro-scropy investigates long term historical oscillations and evolutions on a statistical data base fed into and simulation. A detailed and in depth analysis will reveal within distinct domains aggravating respectively attenuating feedback, which controls developmental cycles. Culminate effects in a particular domain may influence the quality and the pace of the entire developmental process. The concepts/models behind – among others Poincaré's phase space concept, phase transition, Bayesian syllogism and their integration into predictive models – have been discussed earlier [Loeckenhoff 2004; 2006a; 2006b; 2007a 2007b; 2008].

The above prognostic models provide a framework for reference and assessment of the pivotal tendencies on the environmental and in particular on the societal level. For example: with aggravating scarcity e.g. in the commodity markets, the economic situations will increasingly be used as a lever, in both political and economical competition. Unfortunately, basic innovations in the domain of societal policy are not seen to cope with the actually rising threats. In addition, carefully planned and backed terrorism seems on the rise emerging from religious and secular fundamentalism. Socialism in its markedly left versions has not lost attraction as an instrument for dangerous political and economical manipulation. A sufficiently convincing novel, innovating approach to cope with terrorism, to the growing political pressure and blackmail at home and foreign is not in sight. But recently the study of complexity [Systems Research and Behavioral Science, 2007] has set on to investigate *phase transition in highly complex societal phenomena* and *societal crisis management* on a global level. For support complementary studies are needed to appraise the *probable consequences of basic innovations on societal conduct*. As strategic terrorism, many novel forms of criminality grow from basic innovations as e.g. ICT not yet sufficiently controlled. It seems a long way to understand as to control basic innovations in the context of worldwide change and to use them as a chance for rejuvenation on the global level.

The basic innovation rhythms come highly intransparent and complex. They inhere uncertainty relating to all time spans, in business as well as in society. That proves in particular the case for the medium range, the *investment* range. Short term prognosis and, within broad limits, general long range alternatives can be specified on if vague historical

macroscopic foundations. The analysis of the *alternative curves of medium range* proves helpful as to meet the impacts of basic innovations on the corporation investment cycle, existent or to be expected. It allows the *positioning of the firm* in relation to operational, micro and macro curves of the investment circles. Positioning permits to define and to assess the potentials open for innovative corporation *investment policy*. To be able to control innovation, the company must regularly assess the position occupied on the strategic, the medium term investment and the short operation curve of innovation. The social handling of novel investments and its impacts on society are not yet mastered.

4.3 Re-Inventing the Entrepreneur and the Innovative Corporation

The corporation and its natural and social environments co-evolve interdependently. That proves valid for historical, demographic and political evolvments as indicated above. More actually and directly the corporation connects with its immediate natural, economic and societal environments. Economics span from business partners to stakeholders to markets and world wide competitors. The frame of conditions is set by terms of trade, by political constitution and governmental regulations. Ubiquitously inherent is the *societal ambience* of all institutions and processes of the technical – economical – societal systems the corporation represents. All these atmospheric conditions influence the as well the capacity as the propensity to innovate [Csikszentmihalyi, 1996].

A corporation by its very nature needs be innovative, competing for customers, markets and business fields. Innovation builds – see above- the kernel of *co-evolvement*. The need for innovation is *continuous*, since stagnation invariably ends in death. Innovation likewise needs cover *all domains of corporation performance*. To secure the sustainable survival and development, the company must innovate in co-operation with its *inner and outer environments*. Crucial prove the role of the *entrepreneur* and the long term strategic innovation management of the firm. *Entrepreneurship* and innovation depend on the corporate processes of leadership and control as on its institutional frames. Closely enmeshed with and depending from the changing innovative courses of the environment – that are markets, position of the firm, potentials – *innovation itself has to innovate*: the modes of entrepreneurship, of the stimulation, of the targeting and of the management of innovation. Recent research has indicated, that just the capability to innovate and *meta-innovate multi-fold and well balanced* in all these aspects proves the decisive cause for better-than-average performance.

Reflecting the fast pace of general change, innovation becomes an *integral part* of normal business processes throughout. That means that the entrepreneur, that top management is responsible for the stimulation of innovation and decides on its strategy and control. In the practice of innovation, similar to corporate functions as quality and value analysis, it is the task of *any employee* to look for chances to innovate. *Continuous improvement* by *employees* serves but as the base of a comprehensive joined and, more important, active company wide effort. In complement every employee should be ready to adapt to the *change of products, processes and procedures*. Practice proves that innovative success depends on such *accepting flexibility*. Innovational flexibility is requested also on the institutional level. Oriented on *business processes* it adapts to their requirements by project management and other *temporary task oriented forms of organization* up to the varieties of virtual organizations.

Due to the close interconnection of corporation processes, any innovation will most probably cause the requisite changes in virtually any part of the performance system. Gradual change will pose a problem when incremental alterations have led to imbalances forcing in the end a fundamental change. That in turn may lead to a *chain reaction* making a re-organization necessary. Often management is not aware of the need. To avoid such tensions innovations of the organizational kind should be *pre-emptive*, being prepared and open for innovative changes. *Planning for innovation* presumes an innovative company in all aspects. It is not enough and in effect dangerous to be too content with being competitive today. *Competitiveness in the future counts, the potential to innovate more effectively* than the average corporation. Innovation qualifies as a self-activating attitude, a *self-perpetuating process exploring and realising chances and future potentials*. Companies try to institutionalise such a continuing innovation process. Referring to ‘corporate learning’ the install *catalysts* and *prompters* to guide and intensify, task forces and projects and innovation agents cultivating an innovative atmosphere.

HOLISTIC INNOVATION

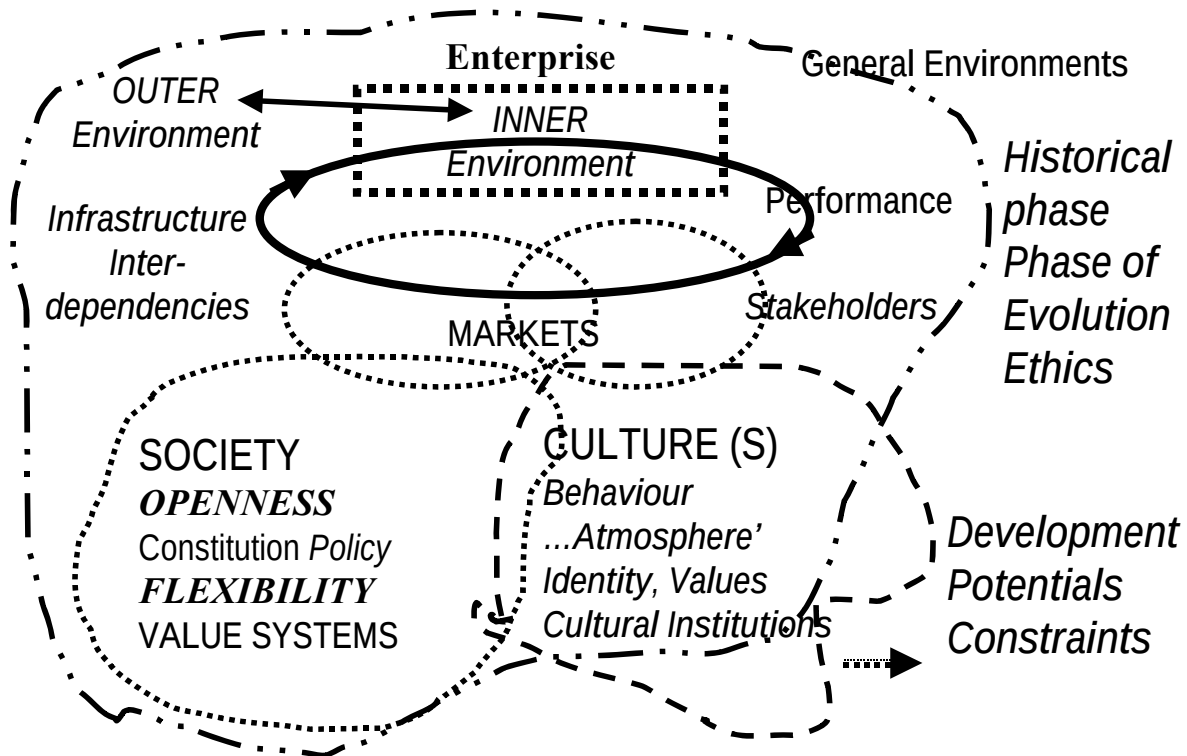


Figure 4.1: Requisitely Holistic Innovation

Innovation planning and controlling starts from the insight that innovation needs leadership and management,. Against the frames elaborated above *potentials* can be explored, *gaps be identified* and deliberately filled. Too slow a pace (competition) can be accelerated, imbalances be straightened out. Planning and controlling are tools of innovation and management must provide a frame for assessment in particular as in *early detecting/ warning systems*.

4.4 Urgent Quest for an Innovative Society

Innovation can thrive only when the environment favors birth and fostering of *innovative minds* and if it provides the environments to encourage dormant innovative capacities. Companies have acknowledged the situation and act accordingly. Still prospering firms exist because they have actively furthered innovation by planning and organization. From the view point of economics, in general *companies* have accomplished their task of innovation within the societal rejuvenations processes. With a few exceptions, in the Mid-European area, *society* and government have not. For example in Germany societal innovation lags far behind even in mere adapting to changing preconditions in the changing world. Reforms overdue are, if initiated at all, too often but half-heartedly and in a watered down state transferred into practice.

Which qualities do constitute an innovative society? It is *openness*: open society, open culture, *open science*. It is *actively supporting innovation*: culturally and including professional education and training. It is furthering *self-responsibility*, identity based on performance which is rewarded accordingly. Tensions and imbalances which are unavoidable in fundamental innovation processes are to be balanced in a way that does *not* create a class of more or less unhappy marginal existences, which are sometimes for generations accustomed to live on social welfare systems. As European examples indicate, it is possible on such a base to maintain a social and societal balance with but temporary serious unemployment. They succeeded, if and how far room was left for *self-organized rebalancing*. As examples make obvious, any other ideologically, e.g. 'social left' underpinned regime, *produces its own imbalances, its own unemployment and its secondary consequences* (and thus its voters, of course). A blockade of societal innovation, whatever is the cause and the reasoning behind, blocks rejuvenation of the society. It destroys with the economic the constitutional and institutional base of the wealth of the nation as well. History should have told so.

A variety of complex causal networks can be the cause, why society blocks its own innovation and rejuvenation. Historical and cultural-historical developments over centennials shaped the general base of individual and *societal identity*. Cycles of behavioral propensities, in particular after WWII, formed so called 'generations' in about a 15-20 years rhythm. Ideologies from right to left more often than not stick to never quite dead ideas obsolete for more than half a century or more. Manipulation for short-lived political issues and the egotism of political parties and pressure groups prevent innovative changes, and encourage the dictation of minority interests. Innovation would diminish the

'*accomplishments*' of a group or, in business, endanger *vested interests*. Little importance is assigned to the growth of the overall wealth: 'not the entire cake, *my part of it*' counts. Authoritarian, bureaucracy, and in business (quasi-) *monopolies and oligopolies* produce ossification and inflexibility. An obsolete and overstuffed, highly inefficient, misuse provoking welfare system generates and prolongs unemployment. It favours hetero- as well as auto-*parasitism* and a general expectation for '*wealth without performance and caring*'. In other words: the institutional structures and the dependent attitudes toward identity and performance are seriously distorted. They are twisted and exploited by extreme e.g. 'left' political forces.

Society in all its domains and organizations need re-detect the *ethics of interdependence* [Mulej 2007a, 2007b; Potočan, Mulej 2005, 2006]; Cancer, Mulej 2007]; and in addition the *dependence from innovation*. Hopefully the pressure and the endangering from globalisation and general change will re-open if but painfully a path to overdue really *innovative* reforms. The harder the damage and the pains of change, the more pressing is the necessity to balance between winners and losers.

4.5 Gains and Pains of Innovation

Innovation is essential, in particular in times where space and resources for life are distributed anew to the best innovators. As aforementioned, there will be winners and losers. Vested interests are on stake, power is shifted. New potentiality fields are to be identified, to be explored and fought for, and to be transferred into market shares and into profit. It must be deemed but natural, that competition more often than not degenerates into a fight, barely legal or outright the cut-throat version. Monopolies and the hidden but nevertheless very effective 'nearly'-oligopolies fight for their well-protected market shares and excess profits. Newcomers are as unwelcome as members of the oligopoly itself if innovating and thus disturbing the power balance. That is especially the case where basic innovations will replace old packets of products and service as e.g. in the medical business. If the switch to the new basic technology proves unavoidable, it needs be well timed. Production as service and business should be exploited to the end, all direct and indirect investments depreciated and paid for. Market shares are to be re-distributed between the partners. Following the rising basic technological approaches from bionics to nano-technology [Loeckenhoff 2007c] novel solutions often provide for the customer more 'simple to use' products at lower costs. In such cases not only the production line, but in addition the better part of the servicing organization will be affected. That amounts to a basic re-constitution of the entire business processes as well as of profits. The shift will take time and eventually will be costly. In production capacities become obsolete, new ones need be set up. When the increase in value added per caput mounts e.g. via now possible automation of production, manpower needed may decrease, free capacity be divested. The shift in the system could likewise affect logistics, quality, maintenance, etc.

The *consequences of innovations on the society* often are not easy to specify. The patterns of the societal web normally change in a more or less steady process, owing to the co-action of many single innovative steps. Their sequels then gradually spread into virtually all domains of social constitution and conduct. Even the course of basic innovations into societal reality is seldom directly to be retraced. The impact e.g. of ICT appears as obvious as dispersed; often it remains indirect and hidden. An overall effect indicates that *time and space as the basic modes of human perception* and subsequent action modes gain an altered rhythm and pace. 'Velocity' and 'slow down' of life is discussed. *Privacy* in the traditional meaning is lost for long; the young generation amazingly (?) sees no problem in the general accessibility of their most personal data. When the banking secrecy has been scrapped under pretences concerning security and justness (!), nobody seriously has protested. Writing letters other than by e-mail has become also in the private domain a scarce ability notwithstanding open access to any information in the internet for government (and organized criminals). One meets and chats not in the streets, but in the internet. The number of friendships closed and restrained to the internet is rising.

The completely *transparent and accessible citizen* is no longer a citizen but a subject; her/his autonomy dwindles steadily. Relevant economically appears the ongoing *restriction of property rights*, led by a Leviathanian level of taxation. Losing its basic freedoms, *Democracy needs be re-invented and reinstalled*. Here comes a difficult task to distinguish or even separate gains and drawbacks. The health care system is but one example for entwined positive and seriously negative effects. The assessment of innovative technology, depending from the point of view and the time span, obtains likewise rather discriminating arguments, e.g. relating interests, to wealth and environment.

A conclusion cannot be other than temporary and pragmatic. Change, partly identical with *learning*, is part of any evolution on any level and cannot be sustainably stopped (which does not mean that just this has not been tried from medieval and today's guilds up to fundamentalisms). It cannot be faced but with innovation also on the level of political constitutions. Innovation is unavoidable ubiquitously. Just therefore it has carefully to be planned and controlled: as *investment of scarce means and resources*, assessing of the potential consequences not only concerning technology. Technology assessment is to be complemented with *social/societal assessment*. It is emphasised that at the present historical phase innovation changes the entire fabric of life fundamentally. We need innovate towards a new *balance between human life and its general environmental systems* as we need re-balance between winners and losers of evolutionary courses. Innovation must be *guided deliberately* and consequentially as a means of *societal rejuvenation*. Innovation should be welcomed as a phenomenon of evolution, not of revolution. Innovation at the wrong time and in the wrong way inhere a considerable potential of destruction.

4.6 Controlling the Rejuvenating Enterprise and its Society

As it is part of evolution, innovation comes as a continuous and a strategy process. Every 'next step' rests on the achievements of forgoing novelties successfully transferred. Every new innovation incorporates the virtual first stage of a strategy to be followed in the future. From the view of the corporation the assessment of innovations need be appraised from operational as well as strategic aspects. *Strategic assessment and continuity* proves vital for the understanding of innovations as inroads to future potentials. Is the actual innovation but a last improvement within a cul-de-sac, an enlargement of existing fields or even basically novel? And which are probable consequences, if so? To be aware of the differing strategies demanded, strategic values of innovations allow *to position* the company in the short, medium and long range general/global innovation curves. Innovation policy constitutes a means to e.g. distribute scarce investment funds optimally. More fundamental, it sharpens the entrepreneur's eye for risks, for chances and potentials implied in change. It helps to identify innovations gaps considering an '*innovative balance*'. It supports the decision whether it pays to try to be an innovative leader, which is risky and costly, or better to be the 'casher' in the slipstream.

The control of innovation towards *societal rejuvenation* appears from its conditions as fundamentally distinct from business innovation. The difference extends most important to the political sector, from constitution to decision processes and performance. [Bertalanffy 2003]. However, two lessons for societal innovation control may be learned from business and national economics. The first confirms that the urgency and the arguments for controlled innovation and evolution from the systemic point of view are almost identical as explicated afore. Societies following a long term oriented and balanced continuously reforming policy can be observed thriving. The others stagnate or actually, if concealed, decline. Regrettably the actual political opinion building and decision systems, carried by the survival egotism of political grouping, prove poor controlling systems for viability and evolution ability. Also unfortunately, outside the economic and the business sector there is often very small knowledge of the essential role of innovation at all. If so, it is effectively ideologically defamed and voted down. It seems that only a severe crisis can enforce reforms, when it is too late to prevent serious and lasting losses. Actually potentials provided by conjectural economic growth cycles are but little taken advantage of for rejuvenation. It is high time political systems learn from business systems.

As indicated, the societal as entrepreneurial rejuvenation is bound to a functioning management system for viable systems [Beer 1989]. It can be effective only on the base of a sound economy, of healthy business and therefore also of an intact national societal level. Sound political systems and policy, sound economy and sound corporations precondition each other. Crucial is the formal political system e.g. that of a democracy as well as the moral and spirit is it filled with and realized from. But caring and *responsibility for the common wealth* foster democracy, and with democracy the economic base for rejuvenation. The *ethics of interdependence* only, in each sector and between them, support a rejuvenating society.

By innovation more often than not losses, sweat and tears are to be expected, as to paraphrase a famous prognosis. As history corroborates, times of change like the fundamental and comprehensive present one, display *e-volution, de-volution and re-volution*, revolution not to be spared. Qualifications becoming obsolete, growing *role insecurity and role inconsistency*, trends to radical ideologies growing from uncertainty and the loss of trust into the future submit but examples. Validity and security of planning for the future may be challenged, the identity relying on that security endangered.

To cope with change, the first prerequisite is to understand the fundamentals of systemic change and *make it understood to society*. Knowledge and insight are paramount. The second step undertakes to generate trust by presenting clear cut *strategies* and to curb uncertainty and fear by balancing and guarantying a life base. The third should be to unmask false *ideological* and fraudulent or egotistic *pretences*. On that base the fourth and vital measure will positively *encourage innovation*.

4.7 Epilogue: Encouraging Learning for Innovation

The encouragement of innovation begins with fostering its preconditions. The entire society needs *consciously be aware* of the vital role of innovation for survival and wealth. Addressed are government, politics, economics, business and the proverbial 'wo-man in the street'. Innovation must be carried by awareness and doing of *all domains implied*. Innovation rests on the *knowledge society*. Radicalism, populism, emotionalization and other manipulative practices find easy play when to large a part of the voters lack even most basic knowledge of social, economic and political facts and interdependencies. Democracy depends from a knowledge society, from knowledgeable voters. Not by chance recently the *educational system* from kindergarten to further training is on probation. It is not just fixed knowledge to be gained, but *learning to learn*, continuously and a life long, professionally and culturally. The range of learning should be open; the growing complexity of culture demands *flexible, trans-disciplinary thinking* also heading for not yet well trodden paths. Complementarily it is imperative that *everybody is requested* to further innovation and to contribute. Any (mature) citizen should be conscious of that the preconditions of innovation are an *open society, open economics, open culture and science – that is in sum democracy*. Common sense and *sensibility as well as sensitivity* is called for towards the sharing in community to achieve the common wealth.

The innovation lesson is fairly well learned and realized in business and economics. The societal and in particular the governmental sector lags dangerously behind. Politics by nature is hampered by particular interests, party egoism and fight for power. Politicians care for the next election, and only insofar and restrictedly show interest into societal

wellbeing and innovation. Populism is drawing on the laziness of mind, the fear of change and the Esau-phenomenon: Esau trading his birth right of innovation to the cheap baksheesh stagnation free of responsibility. Often politics argue from ideologies decennia obsolete, completely ignoring what is unavoidable from the systems point of view. An obsolete, partly parasitic social welfare and social security system gives but one example of many.

In principle interest groups, societal corporatism and pressure lobbies tend to subdue and cloud the *realities* inherent in the change of societal systems. Change, however, from its systemic nature, unavoidably causes social faults, felt injustices, atrocities. But palliative measures ignore their systemic indispensability and thus in the long run aggravate problems and perpetuate them into the worse. Innovation, prone to procreate losers and winners, needs face them and account for them. Innovative balancing within an innovative strategy is demanded. Planning is to preserve the vital energies and potentials when deconstructing the obsolete structures. It is to design the blueprints for the new societal constructs. Political/societal innovation must *avoid decline* by fostering *metamorphosis* to a re-invented society. Metamorphosis will not only preserve existing, but *open future potentials*.

Awareness of the situation and insight what should be done is not sufficient. To transfer appreciation into societal reality any member and institution of the society: voter, citizen, institutions have to be *motivated*. Inert potentials have to be *mobilized* towards planned and concerted action. On the national level such endeavors have proven both difficult and often dangerous. Partial interest, ideologies and opportunism very likely will distort the issue. Central government and the people it is supposed to represent often are connected merely by the taxation sheet, social welfare checks and occasional voting terms. Initiatives are expected and enjoying better chances on the *county and communal* level. That has proven true in emerging countries as well as in ripe national economies. What think tanks produce for central government, however to the point, too often disappears into the shelf or the waste bin. Smaller nations with more direct democracy seem better conditioned to centrally initiated reforms. In large essentially representative democracies the innovative stimulations need be strongly initiated and supported from the communal level.

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5. The individual and corporate social responsibility

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Abstract:

On entering to “Globalization Ages” the challenges for humanity are more complex and possibilities for survival of our civilization are on the edge of ability and responsibility of humankind. The climate change system impact, very dangerous activities of national states entering wars, use of nuclear technologies, use of large number of synthetic chemical products and contemporary technologies from nuclear, particles acceleration, nano, digital, GMO, communications, transport to armaments, without knowing their medium- and long-term effect within the biosphere of the Planet Earth, producing enormous quantities of all sorts of waste, having Money Monster leadership, losing working effects of very large share of human population with urbanization and national states’, international, and global bureaucracies and services activities, being hardly able to feed the global human population, losing ability to ensure safe water for humans, losing possibility to have enough space for living and losing possibility to ensure quality air for breathing, are some of challenges we are facing at present, and likely we shall face them and the unknown and possibly more severe ones in future. The Corporate Social Responsibility (CSR) was invented to support the new challenges faced by corporations and their effect on the human society, which failed to support possibility for its own survival, and opened a large gate for the Money Monster leadership which does not recognize the individual, social and global human society’s needs of now and in the possible sustainable future. Authors believe the CSR and individual social responsibility are forgotten values of the humanity neglected by The Money Master that needs the money reproduction and is managed by humans without human qualities/ethics.

Key words: corporations, corporate social responsibility, globalization age, individual social responsibility, money monster, sustainable (development) future of humankind, synthetic chemical products, and the climate change system impact and mitigations

5.1 Historical Evolvement of the (Corporate) Social Responsibility

The genesis and evolvement of the corporate social responsibility – CSR (From: Esposito, 2008), could be presented as from ancient history, to modern times as the American case study: “Even if the notion of Corporate Social Responsibility is quite recent, the concern regarding the consequences of economic activities – that lies behind these words – has existed since a long time in human history.”

Indeed, since ancient history any economic activity has always meant stressed links with society. This link being generally stretched between two unconnected values: greed over natural resources and satisfaction of the population needs. In fact in many economic activities the desire – or necessity – to produce more can endanger the availability of the natural resources and consequently threaten the durability of the activity itself. This has always been the case for activities such as fishing that has to balance its production with the availability of the resource, in order to make it durable/sustainable.

Thus this concept can be found inside most historic civilizations, represented by a permanent concern to make durable the different resources on which were based the economies of these times. For example, in ancient history, Hammurabi, king of Babylon, created the “Code of Hammurabi” in 1760 BC. It is one of the earliest written and recorded regulations that notably “protect” slaves, stating that they must never be separated from their wife’s and young children. During Middle Ages the lords were preoccupied to maintain a good balance in the exploitation of their fiefs between lands, livestock, and forests.

In the France of modern times under the rule of King Louis XIV, Colbert’s Ordonnance des Eaux et Forêts pronounced measures to preserve the French forests on the longer term.

As of the Industrial Revolution in the nineteenth century Paternalism, a new model appeared with the industrial revolution that took place after the war in the Europe.

Employers developed a new implicit responsibility of taking care of their employees and their families, to offer them a better life. Their workers took advantage of “life-jobs” and social opportunities that were unreachable before that, in education, housing or medical care. This new ethical point of view was evidently responding to other goals too, such as better work output, company belonging and pride. It provided a greater control of the workers, too, whom the

employer supervised in their work and social life. Michelin is a good example of a French company that has a strong paternalist history.

The arrival from the United States of Scientific Management – also called Taylorism – and of Fordism changed the rules. These new mass production methods dramatically increased the productivity, but had negative consequences notably on workers' wellbeing with very repetitive and uninteresting tasks, and on the environment with increasing pollution and public nuisance in the mid 1900s.

However these drawbacks were somehow tolerated because they were accompanied with very high rates of economic growth, employment and significant technological progress. At the same time companies seized the opportunity to abandon their social role, which was taken over by the “welfare state” that would assume the primary responsibility for the wellbeing of its citizen from now on.

The formulation of “CSR” is expressed as a fruit of religion and ethics in the United States. From 1916 the American economist John Maurice Clark stated what could be one of the earliest sign on the track of CSR: **“If men are responsible for the known results of their actions, business responsibilities must include the known results of business dealings, whether these have been recognized by law or not.”**

In early 1930s, Professor Theodore Kreps used the term “Social Audit” while introducing the subject of Business and Social Welfare to his Stanford students, developing a concept of companies reporting on their SR.

But it was in 1953 that a protestant pastor, Howard Bowen was the first to introduce and to define the term “SCRs” as: **“The obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society.”**

After Bowen, the theoretical expansion path of CSR persisted with continuous developments essentially in Anglo-Saxon countries. Here follows an historical collection of theoretical developments concerning CSR, from 1961 to 1995.

In 1961 in his book called *The Responsible Company*, the British George Goyder recalled the idea of social audit, but introduced briefly the new notion of “stakeholders”, referring to the list of people the company had responsibilities towards such as employees, communities, government, and naturally shareholders.

Indeed, understanding that an organization affected more people than it was generally thought, Goyder's vision was that they had at least to account to them, if not to be influenced by them. Indeed social audit is defined as a management tool that “could offer stakeholders a platform for challenging and influencing companies”.

The most common argument against the idea that companies had a responsibility towards society had been that such attention would eventually weaken the efforts to succeed in the economic field, and to reward its shareholders by drawing the attention to a “futile” objective.

Answering to several directors of large U.S. corporations who declared possible the extension of their attention from exclusively to shareholders towards the entire community, Milton Friedman, the American Nobel Laureate economist denounced CSR as dangerous in 1962: **“Few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their stockholders as possible”**. He notably stated that “private individuals” were not qualified to influence business decisions.

Despite the critics of this very respected and influential man, the concept of CSR was further developed, which eventually led to the creation of models.

In 1975, S. Prakash Sethi, a management researcher and author developed **“Corporate Social Performance”** model, which expressed and articulated three stages, from less to more engage towards stakeholders: **social obligation, social responsibility and social responsiveness**.

The first stage, called social obligation, corresponds to corporate social responsibility limited to the compliance with the legal constraints or market forces. On this level, companies can be described as compliant.

To achieve social responsibility, the company has to move beyond compliance and should ally economic and “societal” (relating to human society and its members) goals: it must identify and satisfy societal needs. On that level companies can be described as responsive.

With social responsiveness, the organization still combines economic and societal goals, but needs to adopt a more proactive approach as well. It aspires to anticipate future societal issues and actively work with its stakeholders to prevent them. Managers would always take the prudent decision whether law requires it or not, in order to reduce the corporate liability. On this level, companies can be described as engaged.

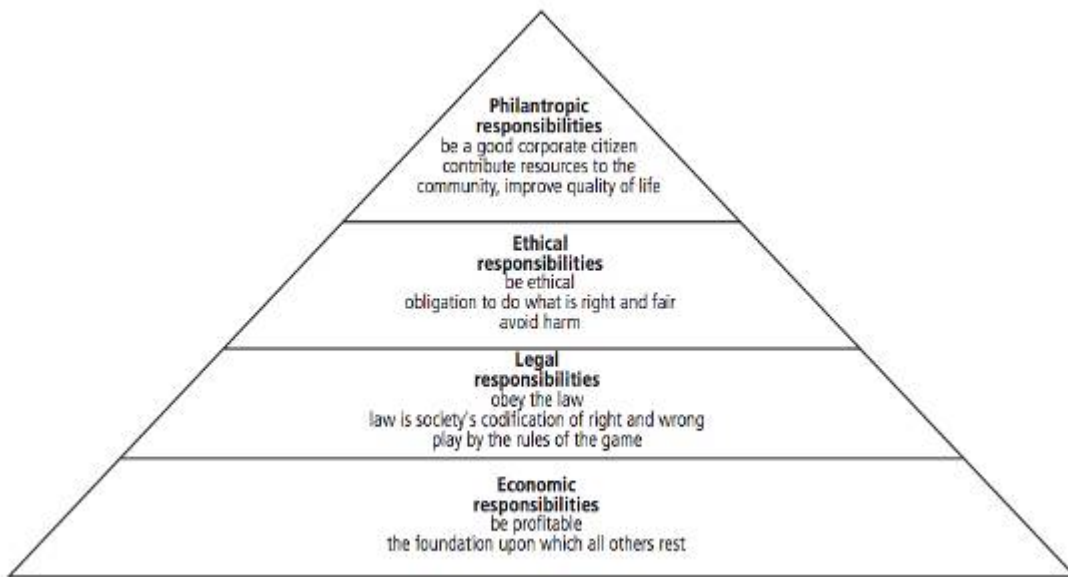
Sethi's model was a major advancement in CSR thinking. However it implies that social responsiveness could replace social responsibility, a vision that later theorists – such as Carroll in 1979, Wartick and Cochran in 1985, or Wood in 1991 – rejected.

In 1979 Archie B. Carroll – a professor at the university of Georgia specialized in business ethics – developed **“Three Dimensional Model”** his initial model of CSR consisting of three items: the first was the SRs defined; the second consisted in an identification of the social issues linked with the SRs; and the third was the philosophy of responsiveness, which represented the motivations of companies responding to social challenges: from reaction, to defense, accommodation and pro-action. He upgraded this model by putting forth part connecting profitability and market values. Figure 5.1.

Philanthropic activities are at the apex of what can be seen as an itinerary to CSR. Despite the fact that the elements

are not mutually exclusive, the most natural way to reach the top is to fulfill all four responsibilities.

In 1985 Wartick and Cochran took Carroll's four-tier model and embedded it into their own "Corporate Social Performance Model" that was articulated around three sections: **the principles of CSR, the processes of corporate responsiveness, and the policies to solve social issues.**



Source: Carroll, 1991.

Figure 5.1: Carroll's Pyramid of CSR

With Corporate Social Performance Revisited, released in 1991, Donna J. Wood covers CSR and especially the topics of environment assessment and stakeholder management.

Wood states that CSR is a logical consequence of the fact that: **"Business and society are interwoven rather than distinct entities; therefore, society has certain expectations for appropriate business behavior and outcomes."**

Integrating her theory about CSR, Donna Wood built a broader concept that can be a model to develop a good non-market strategy. In Corporate Performance Revisited, she defined her Corporate Social Performance (CSP) construct as: **"A business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships."**

In 1995 Raymond E. Jones and Donna J. Wood perfected her former CSP model – of principles, processes, outcome – with a new stakeholder framework. With this new framework internal stakeholder effects, external stakeholder effects and external institutional effects now replace the former outcomes. Indeed the two theorists attribute three roles to stakeholders, which respectively lead to these three effects: Stakeholders are at the origin of the demand for CSR and consequently establish corporate behavior norms. They are the basis for companies that want to define objectives in order to achieve admired corporate social performance.

5.2 Shareholders, stakeholders and CSR

The CSR development has nourished many debates since its commencement in the mid 1900s. Among them the now classical "shareholder perspective" against "stakeholders perspective", that disputes the question of whom the corporations accountability is limited to. This is a matter of importance because it is essential to determine the role of a business in our society.

In 1984 R. Edward Freeman – an expert in Business Ethics, Strategy and CSR – published "Strategic Management": A stakeholder approach where he thoroughly studied the stakeholder issue and proposed the following definition: **"A stakeholder in an organization is (by definition) any group or individual who can affect or is affected by the achievement of the organization's objectives"**

More recently, in "Redefining the Corporation": Stakeholder Management and Organizational Wealth, James E. Post, Lee E. Preston, and Sybille Sachs explore the stakeholder theory. Their approach is often observed as being the most relevant since Freeman's theory, and offers a new definition of stakeholders: **"The stakeholders in a corporation are the individuals and constituencies that contribute, either voluntarily or involuntarily, to its wealth-creating capacity and activities, and that are therefore its potential beneficiaries and/or risk bearers."** Figure 2.

This definition diverges from Freeman's theory by excluding the competitors from the stakeholders of one corporation.

In an article published in 2003, Dirk Matten – with Crane and Chapple – states that stakeholder theory has become an unavoidable concept. Thus, they affirm that stakeholder theory is now: **“A necessary process in the “operationalization” of CSR, as a complimentary rather than conflicting body of literature”**.

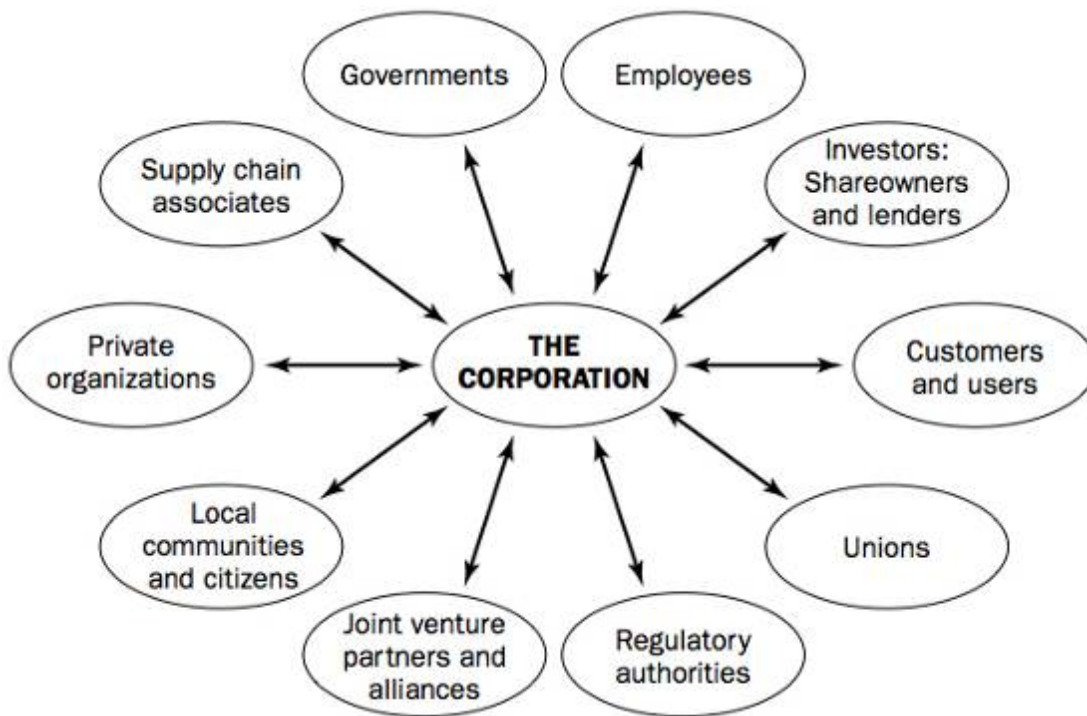


Figure 5.2: The Corporation and its Stakeholders (Post, Preston, and Sachs)

The classical view mainly bases its arguments on neoclassical economic elements such as free market, economic efficiency and profit maximization. It is articulated around the following three main ideas:

- 1 Managers must always strive to deliver profits to the owners of the company: the shareholders. No social interests should distract them.
- 2 Resources should not be allocated to socially responsible objectives because they must be only used in order to fulfill the primary objective of a company: its profitability.
- 3 Appropriate organizations such as governments and NGO should be the ones who solve social issues; this is neither the role nor the competence of managers inside private companies.

Despite all of this, we saw that several “classical” authors recognize that CSR and the Stakeholder Theory can offer interesting – or even necessary – frameworks to develop durable shareholder value. Recently in 2006, Mc Williams, Siegel, and Wright concisely summarize this approach in their paper Corporate Social Responsibility: Strategic Implications by stating that in fact CSR is **“a form of strategic investment”** and therefore managers should assess pros and cons of such a decision, as for any other investment.

Contrary to the classical view, the stakeholder view stresses that companies have a SR towards a wide variety of groups or individual.

Consequently, this view requires that when making a decision, managers should take into consideration their shareholders of course, but also anyone who is concerned by this decision. The idea is that the company should not only prosper economically speaking, but also socially, by taking its principal stakeholders on its own way to success, to make them benefit of the accomplishment too.

To demonstrate that shareholders should not be differentiated from other stakeholders, Freeman – who first defined the notion of stakeholder – reminded in 2004 – in his publication “Stakeholder Theory and The Corporate Objective Revisited” – that shareholders are full-fledged stakeholders, and consequently in his opinion it is unwise to give them a different treatment with different governance theories: “it is the logical equivalent of contrasting ‘apples’ with ‘fruit’”, he declared.

Max B. E. Clarkson, a researcher and professor at the University of Toronto, developed in 1995 the most popular classification of stakeholders in his paper “A Stakeholder Framework for Analyzing and Evaluating Corporate Social Performance”. His work classifies the stakeholders in two categories, depending on their importance for the company: they are called primary and secondary stakeholders.

The primary shareholders are all the entities “without whose continuing participation the corporation cannot

survive as a going concern". This includes of course those who lend money: the shareholders and investors, the employees who are the living force of the company, the suppliers, and the customers. The government may also be part of this list especially as far as regulation and taxes are concerned, and the community too since it provides to the company a market to exploit.

The secondary shareholders are all the other entities "who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival". This may include the Medias, NGOs, or non-vital partners of the firm.

It is the issue of the 'mute' stakeholders and is asking that, stakeholder theory takes into account the needs of today's communities but what will happen to those of the future? Of course, it is impossible to ask their opinion, but future generations will obviously be affected by the actions that companies are taking today, especially if these actions mean environmental deprivation.

In 1997 Michael Jacobs wrote "The Environment as Stakeholder" for the recognition of the environment and future generation as stakeholders, even if "they have no voice". However, this is really a difficult issue because the shareholder status usually comes with an ability of dialogue with the company, and a commitment for mutually beneficial cooperation that neither the environment nor the future generations can provide in fact. However even if they are not born yet, future generations are the future of humanity and their interests deserves to be respected too in a moral sense. Jacobs declared that these mute stakeholders must be understood "in decision-making structures, whether of companies or of society as a whole". "

As far as we are concerned, we agree with this point of view and would even like to add something here. The present generations have the duty to ensure a livable environment for future generations; it is one of the principles of Sustainable (Development) Future of Humankind. Consequently as of today, we believe that the legitimate – in place – stakeholders have the duty to make sure that the interests of those who will follow them are considered.

5.3 Money – from a tool via a master toward a monster opposing ISR

We think two issues have not been taken into account by researchers and practice of CSR to make it requisitely holistic; they are:

- a) Money (Ećimović et al, 2003) as a Homo sapiens' invention/innovation has its origin in ancient history. People needed system of money for payment of goods and services, and to replace barter exchange. The eastern cultures were more advanced as the western. Chinese developed coins and coins-like money during the second millennium before Christ, and India followed. The first paper money was invented in China during the first millennium after Christ. Marco Polo, 1254 – 1324, reported about the use of paper money after visiting China. The first coins known in the Western world were produced in Lydia, a kingdom in the western Turkey; thus its king guaranteed uniform value. Paper money was invented in the Western world much later; we know today, it was developed in the 19th century. At the beginning of 20th century, the money system was a nice and very helpful assistant of civilization.

From a nice assistant to the master – money system needed only half century. By end of the Second World War 1945, and within five years assisted by USA administration, Marshal Plan and development of society – the money evolved from servant/assistant to the master of our civilization.

From master to monster – at the beginning of the third millennium our civilization adopted a secondary role in society after the master money, which transformed itself from master to monster. Today monster money is deciding on right or wrong, dependence or independence, war or peace, values of services and commodities, people, nature, environment, and, sadly, even the scientific achievements. In the last hundred years an intensive knowledge gain of our civilization was driven by development of better and better armaments for Homo sapiens' destruction/killing. The present wars always result in financial gain of nation, which wins the war. At the beginning of third millennium our civilization is in very bad shape; some nations such as G – 7 countries are success stories, but the majority is stranded. The recent impact of the climate change system clarifies the role of CSR and long-term values. All value of monster money system is not sufficient to protect or mitigate impact of the climate change system, and humans have to find ways for better life or sustainable future, but of course not with monster money system, but in sustainability and harmony with the Earth biosphere.

We are recommending evolvement of our society-wide global approach considering possible impact of the climate change system, which has enough power to change the Planet Earth biosphere and living conditions including making the present nature unrecognizable. We think that **it is impossible to buy the survival of humankind with a financial approach (alone, as master rather than a tool), however great it is.**

The CSR should be re-checked from a new angle making the money system a tool again, and making impact of money system on biosphere less destructive – production of: synthetic chemical products; nuclear technologies; GMO, human organs sale; production of waste; etc.: and make it assist eco-remediation of forest, river basins, coastal waters, deserts, large town areas, transport communications, and polluted land/water/air.

- b) Worldwide research by scientists (Ećimović et al, 2002, 2006, and 2007), complex problem solving, case study research, education, and many other activities of Homo sapiens as individuals and society today must take into account the climate change system affairs, which have a main role for changes in biosphere as the most risky

issues in the 21st century.

The Climate Change System provides, makes, holds, and guards the living conditions within the biosphere of the Planet Earth to which the living creatures must adjust for living; its role is more important as humans have been thinking in the past. Much extinction of species, smaller and larger alike, result from changed environmental qualities, caused by changes in the climate change system.

The Earth's biosphere is made of *interdependences, interactions and co-operation* of matter, energy, and information within the time frame, and has three bases – Water, Land and Air environments. To be ready for changes, and mitigations due to the climate change system, all of us single representatives of human race must learn more about basics of the biosphere.

And now let us explore the case study of cultural aspects of the corporate social responsibility (How): “we have the scientific knowledge to solve our major world challenges. We have the technological know-how to solve our problems. We have biological, psychological, and sociological knowledge to educate and transform human beings. We have organizational knowledge to design institutions that could support the transformation towards a sustainable world. But what we need is to have new hearts and a new VISION as well as cultivating Social Responsibility practices both at local and international levels. Who says that one person or an organization can't have an effect in this world? We all have an effect, and if your effect is an inspired one, then it will inspire countless others around the world.’ This is what I have advised the United Nations through the Academic Council on the United Nations System. It gives a new direction and perspective for the entire United Nations NGOs systems to practice and seriously look into social responsibility wide perspectives for the benefit of world citizen in this new millennium.

5.4 What can save the humankind in the 21st century?

Lack of SR practice is one of the main factors to put PEACE mission to a far distance to reach. If SR is never put in place URGENTLY in the heart of all influential citizens on all levels around the world, no matter how hard we work for it and use all kind of strategies to cultivate peace, humankind will never be able to achieve the humans' long –desired goal – peace, safety, and prosperity. The worst part is keeping all of us busy for nothing, wastes our energy although all kind of ideal and profound policies have been creating and developed by various governmental agencies, NGOs and Corporations since many decades ago.

We would like you to think about a statement. “A wise man will desire no more than what he/she may get justly, use soberly, distribute cheerfully, and leave contentedly. The wealth of a nation cannot be stored in gold bars. It must remain in the spirit and attitude of the people; wholesome, hopeful, and reverent.”- “Achievement begins as we take the first step towards change” is particularly relevant. Challenge and change are paramount forces in every aspect of life.

“To Promote and save the culture in the 21st Century – it is extremely important to cultivate World Peace through SR Practice. All kinds of activities initiated by any parties must be carried out based on this profound platform at any time and any places”.

Just as individual persons have their responsibility to society and their environment, so too all corporations, organizations and even governments around the world have such a duty to care with SR towards maintaining and upgrading society and its environment. For such corporations, organizations and governments, this is even more so: their effect on society and the environment is far larger if compared with an individual.

“SR practice can be considered as one of the important leading examples to show humankind the effect of the reactions on each issue within a certain period to see the reality of the results. The sustainable development value of SR practice will develop this planet to a better place to live in. The benefits will go on to generations after generations, if humankind seriously looks into this practice.”

As we know, culture is a kind of art and essential goods of the cultural heritage of all peoples of the world. Knowledge of history and culture of other peoples should help reduce prejudices, promote a better understanding and help create and maintain world peace. Through promotion, preservation and protection in an area defined by both tradition and innovation, we humankind should serve the well-being of the entire humankind and make a significant contribution to international understanding and maintenance of peace.

There is always room for improvement. Through ASRIA's platform our mission is to obtain a population of 20 million to practice CSR by the year 2015. We give each company **an equal opportunity** to qualify for our ASRIA Awards as we believe each company is an achiever in their own discipline. ASRIA wants every company to experience our unique culture and be certified by **ASRIA 2008 and beyond**. Who said that any company cannot be the winner? If you have the WILL to SUCCEED, ANSTED University has the WILL to RECOGNIZE your effort internationally. All ideas and concepts of CSR put into practice have benefited people one way or another and should be APPRECIATED. There is **NO LOSER** in the practice of CSR world.

Of course, you and your participating companies supporting your event are most welcome to join hands with us to achieve this **IMPORTANT and meaningful mission** through this platform created by ASRIA.

Last but not least, we must keep in mind that CSR can enable all of us to benefit from living in a world in which common, positive, standards are respected by all. The SR practice is an inter-related flow and it requires each country, corporation, and community, family and individual to work together in order to cultivate this courtesy value.

“Life is full of adventures and thrills. Be appreciative and thankful because things in this world may not last forever.

Also be responsible and take care of our environment for the benefit of society at large. Although things may change gradually or as a result of an external force or a sudden natural disaster, humans have managed to learn numerous big lessons from all kinds of natural disasters and man-made problems. Therefore, it is everyone's duty to protect the Earth and love all the living, instead of purposely destroying life. We may leave behind each other one day. However we should value every single second and everything surrounding us whether be it near or far away."

"TOGETHER WE PROMOTE A BETTER WORLD ENVIRONMENT TO LIVE IN. NOT ONLY HUMANKIND NEEDS MUCH CARE, BUT THE EARTH NEEDS EVEN A GREATER CARE FROM HUMAN BEINGS. THE EARTH IS OUR ROOT FOR ANY LIVING THINGS TO APPRECIATE AND NOT TO DESTROY IT."

Many case studies enable us to refer to the corporate and individual SR as a part of foundation of humanity, and not as a new evolvement after the age of industrialization. The practice is changing, the principle stays on.

Due to large changes within present money governance over humankind's society, many grass-root issues are forgotten or having new faces. It is all right when the environment/biosphere is supporting it, but failure to notice changes of living conditions for all living beings and their environment, requires a strong support of all members of the civilization. That is what we need for transition towards sustainable future of humankind or harmony of humankind with the nature of the Planet Earth in the Globalization Age coming now.

The present devastating practice on the Earth includes:

- 1 The destruction of nearly all waters with synthetic chemicals, bio and air (rain-induced) pollution,
- 2 The destruction of air by the land, sea, and air traffic,
- 3 The destruction by the results of war actions,
- 4 The destruction of the natural system,
- 5 The destruction of the soil fertility by the agriculture practice, including erosion and desertification,
- 6 Global warming and other impacts from the climate change system, and of course
- 7 The explosive reproduction of humankind.

Those and many other complex problem issues should be a part of Agenda/New Approach, which have to undergo transition, changes, researching, learning and other approaches for better tomorrow of our civilization, or sustainable future of humankind.

We see no alternative for the current civilizations to survive. There are impacts from the Universe, of course, but do not let us seek excuses for our current one-sided practices in them!

5.5 The requisite holism – a recommended way to overcome the blind alley of today

The Requisite holism – a way to overcome the blind alley of today – demands scientific work, as a basic source of knowledge, which needs efficient co-ordination at the world-wide level that should be an integral part of the world governance. We need independent scientists, who work because of their scientific thinking/acting and practicing ability, and not because of need for daily/monthly/annual salary given to them by bureaucracy (democratic financial societal system), or marketing/profit oriented economy. The money system today has become a master of its own, a monster which rules the entire civilization. It would be nice to put it back, in the frame where it belongs – the servant of humankind. Now, profit is killing profit by causing side-effects having crucial impacts, including humankind's cost to be covered by company and individual taxes.

It is obvious that CSR is not a part of the present humankind ethics, but declarations for promotion purposes only. When and if the CSR and the individual SR of humans will be a part of each and one representative of our species, the sustainable future of humankind will have better chances to prevail.

The key of success, in our opinion, is evolvement of "NEW ETHICS" or "New Approach" (Kulic) needed for survival of our civilization under the new challenges from the Nature of the Planet Earth, as impact of the climate change system and present human civilization pressures. In our research we think of "Sustainable Future" or harmony of our civilization with the Nature/Biosphere of the Planet Earth, as evolvement from the present irresponsibility to tomorrow sustainability by transition of our society to needed innovations of culture, which could provide response to the challenges of today.

The CSR and individual SR should be a part of new ethics. As Ećimović stated in talks with students at Mangalore State University, India, 2007: "The CSR should not be responsibility of corporations but individual SR of each and every citizen of the World, and when individual SR will be a part of all of us, we shall have CSR as result of new ethic's, new approach or knowledge of each and every citizen of the World."

New ethics (Ećimović et al, 2006) and new approach are begging us to transit from present to future. The most backward part of our society is national states and distribution of the peoples of the World in national countries/entities, etc, which manage the national interests, usually opposite to interest of global society. Because of differences within the national states of the World it is impossible to have common interest to whatsoever issues needed for better tomorrow. That is why we are recommending transition from national states to global humankind governance as The World Government, Parliament and Constitution. This is no ideal solution, but still better than the division in many one-sided parts.

5.6 Conclusions

To be able to understand the need for world governance, humans should understand the systems within which we exist, and systems we consist of and that we create. It is important due to the known fact that any system in nature will remain as it is, as long as all systems and relations within it are in a similar mode. Together they make a living system that is trying to be a viable system. If and when any major or minor part of the system moves, changes, and the whole system will commence to move, change. It is not possible to predict in which direction the system will move, or change. This is what is happening with the climate change system. It is, maybe, an answer to what is happening with human society at present. Maybe the method recommended in Chapter 27 can help.

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C. CASES RELATED TO SYSTEM THINKING ABOUT SUSTAINABLE FUTURE

In this part of the book we will illustrate how pressing and complex the problems of sustainable present and future tend to be. It is obvious that an invention-innovation-diffusion process is required for these problems to be solved. Good examples can show the way because they result from requisitely holistic behavior resulting in requisite wholeness of outcomes.

6. Sustainability in farming – food production and environment protection

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Abstract:

Globalization and environmental influences are the two main factors of influence that will modify and regulate nearly all areas of our future life. Especially against the background of the general future development the agricultural productivity has to be increased without further impairment of the environment. Using dairy farming as an example, this paper describes the world-wide prospects in animal production by 2015. The trends include social aspects as well as environmental and economic ones.

No doubt, the available ha size per capita will continue to be reduced, mainly driven by population increase, expanding infrastructure (e. g. new roads) and new buildings. It seems realistic to assume that we have less than 0.19 ha/capita available in 2015 compared to 0.24 ha/capita in 2000. The implication consists in a noticeable increase in agricultural productivity.

In addition, we have to use the positive effects of globalization like increased mobility of goods, economic growth and poverty reduction in countries such as China, India and others. Yet, the regulation of globalization has to be improved by political and economical decisions. Overall, globalization is a worldwide need and its goal should consist in the worldwide alliance of responsibility.

The main six world problems with regard to dairying are: 1) Population growth from actually 6.7 to 9.2 billion in 2050; 2) Water scarcity; 3) Poverty and hunger; 4) Economic growth; 5) Demand for food; 6) Food production versus alternative energies. To solve at least some of these problems, we need innovations, new technologies and trade liberalization. Only substantial progress in these fields will offer higher degree of sustainability in dairying and other agricultural production areas. However, to achieve the highest degree possible, a balance between the aspects of productivity, climate, ethics, ecology, welfare, consumer and politics will be required as well.

The paper details selected general trends in animal production including dairying by 2015 and offers the potential of innovations to improve the current status quo. The main aspects are: 1) Consumer behavior and global/regional food consumption; 2) Economics of dairying at farm level; 3) Interaction between dairying and greenhouse gases; 4) Sustainable dairying.

Overall, the challenge for future animal production consists in the increase of food production (food security) with minimal impairment of the soil fertility, the loss of water resources, the environment and the food safety. The most convincing way to approach this objective is sustainability.

Keywords: Sustainability, animal production, current world problems, food security, environment protection

6.1 Introduction

In 1714, Hans Carl von Carlowitz, a German knight born in 1645 at a knight's castle near to the city Chemnitz/Germany, published a booklet entitled "Sylvicultura Oeconomica". This publication was dealing with possible solutions for the scarcity of wood by applying the principle of sustainability, since the amount of wood used per year was limited to the amount of renewable wood. Especially the argumentation for such a procedure was absolutely new at that time (around 1710) as von Carlowitz stated "that the economy has to serve the social welfare. Therefore, it is obligated to handle with care the "mother nature" and bound to the responsibility for future generations" (Grober, 1999).

In 1987, the World Commission on Environment and Development (WCED) defined the term sustainability. This definition has become widely publicized, yet the term sustainability is not limited to one precise definition. The definition by WCED was as follows:

"Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCDE, 1987).

Despite this widely published definition and further attempts for improvement, it seems difficult to come to a generally acceptable version of the term sustainability. Obviously, it is more difficult to assess and even more difficult to achieve sustainability for the complete world population.

As a result, it is very complicated to realize something that is not even defined consistently or even has international acceptance.

Moreover, as the inventor of the term sustainability has stressed, economy, social welfare and Mother Nature are equal parts of this term. It has been and it is actually time by a multi-factorial scale of aspects to come to an international agreement to realize and to achieve sustainability. Practically spoken, this is a fundamental political task. Yet, academia must underline the necessity for realization of sustainable strategies to a great extent in order to support the survival of future generations. This article deals with the worldwide trends in animal production, especially dairying.

Sustainability in agricultural production is the only way to find a balance between food security, food demand and eco-social criteria. Some data will be presented to stress this statement.

6.2 Actual World Problems

Sustainability can only be realized, if all countries try to reach the goal of sustainability at the same time. No doubt, sustainable developments on our planet can only be achieved with a substantial contribution of agriculture. The majority of the main world problems are also directly related to agricultural production. Such influences may exert great variations in production and thereby significant fluctuation in food prices for consumers.

Three main aspects have to be regarded for a balanced and peaceful world:

- »» World population development
- »» Globalization – a need for all of us
- »» Responsibility for sustainability

6.2.1 World Population and Arable Land /Capita

Based on different FAO yearbooks (Steinfeld et al, 2006) and own calculations (Hamann, 1997) Table 1 summarizes trends in world population and used arable land.

Obviously, the actual volume of food production per capita & year can only be maintained, if the agricultural productivity is increased in relation to the population growth. The majority (> 80 %) of the increase in food demand must be compensated by improvement of agricultural productivity (e. g. modern agricultural techniques, innovations, modifications of irrigation application, etc.), because the potential to increase the arable land is marginal (throughout 2020 by about 5 %) and may contribute to the expected need for food by 20 % (v. Witzke, 2008; v. Braun, 2007).

Year	Population (Billions)	ha/capita
1950	2,5	0,56
1975	4,0	0,36
2000	6,0	0,24
2007	6,7	0,22
2020	7,7	0,18
2050	9,2	0,16

Table 6.1: World population and arable land / capita

6.2.2 World Hunger

Malnutrition can be characterized mainly as the lack of sufficient intake of energy, protein and micronutrients (e.g. Vit. A, Fe, Iodine). It is assumed that actually worldwide more than 800 millions people are undernourished (World Bank, 2007). Since 1999 the average values of calorie consumption for all types of countries and the total world (FAO, 2002) show levels above the minimum requirement for human beings in a range of 2500 kcal/capita/day (DGE, 2000).

Data in Table 6.2 show a very promising future. Yet it is uncertain whether the Millennium Development Goal to halve the share of people suffering from extreme poverty and hunger by 2015 (World Bank, 2007) can be met. Several factors are causing the uncertainty for sufficient future food production – Table 6.3.

Moreover, the increased food price level since about the last three years in a range between 20 and more than 150 % - depending on the specific commodities –(Dt. Welthungerhilfe, 2008; UN, 2008) will affect especially the poor through price-level and price-volatility effects (v. Braun, 2007).

Region	1997-99	2015	2030
Developing countries	2681	2850	2980
Industrial countries	3380	3440	3500
Transition countries	2906	3060	3180
World	2803	2940	3050

Table 6.2: Average values of calories consumption (kcal/capita/day)

1.) Climate changes
2.) Water scarcity
3.) Energy costs
4.) Alternative energy production
5.) Market competition – globalization

Table 6.3: Factors causing uncertainty in food production

6.2. 3 Water Scarcity

Water is an essential element for life in animals and plants. The definition of the term “water scarcity” is not well established. As a relative definition, it is stated, that water scarcity takes place if the use and distribution cannot meet the complete demand (household, farms, environment, industry etc.).

It is important to understand that water scarcity is not only a problem of developing countries but also a topic of discussions in some industrialized countries such as Germany or England. Today, agriculture accounts for 75 – 95 % of all water used globally. It is estimated that 14 percent more fresh water is needed for sufficient food production throughout the next 30 years (UN, 2006). Some general trends, based on – comprehensive reviews published (FAO ,2005; UN, 2006; Molden, 2007) – are presented in Table 6.4.

1) Fresh water availability (presently) - on our planet – 6000 cubic meters/capita/year - water scarcity: < 1700 cubic meters/capita /year
2.) Actual and future water applications - food production : 1100 m ³ /capita/year - food & feed crop demand will double within 50 a. - by 2025 about 1,8 bill. People (20 % of world population) will be living in water scarcity regions
3.) Main causes for increasing water scarcity - inexorable growth in population - intensified urbanization - rise in per capita food consumption - climate changes reduce fresh water resources - 14 % more water will be needed for agriculture in <u>2030 to obtain 50 % more food production</u>

Table 6.4: Water availability and future trends

Overall, we need significantly improved water productivity for both, food security and environmental security (UN, 2006).

6.2. 4 Climate Change

Climate change is a fact. The majority of publications on the climate system see nearly identical trends: A warming in global air and ocean temperature, associated with an increase in melting of snow and ice, and a rise of the sea level.

The IPPC stated in 2007, that the linear warming trend over the last 50 years with 0.13 °C [range 0.10 to 0.16 °C] per decade was nearly twice that of the last 100 years. Main reasons for this climate change are noticeable increases in concentrations of carbon dioxide, methane and nitrous oxide mainly as a result of human activities. Increase in carbon dioxide concentrations are mainly caused by fossil fuel use and land use change, while rise in methane and nitrous oxide are primarily due to agricultural activities (IPPC, 2007).

It can be assumed that there will be a warming of about 0.2 °C per decade for the next two decades. Yet, if we continue with the actual greenhouse gas emissions, further warming with a corresponding climate change will be the

result (IPPC, 2007). In addition, it seems very probably, that over the next centuries the climate system needs time to recover from the overload with greenhouse gases, e. g. carbon dioxide.

As early as in 1992 the United Nations Framework Convention on Climate Change set the global goal to stabilize greenhouse gas concentrations to avoid dangerous anthropogenic interference with the climate system (UN, 1992).

Numerous scientists and international organizations (e.g. EU, UN, IPPC, WWF) have set the limit of climate increase to less than 2 °C above the pre-industrial temperature, to be able to cope with the climate system (EU, 2007).

Effects of a global temperature increase to more than 2 °C will consist in difficulties to handle potential impacts to humankind, nature and the economic systems. Such effects may occur (WWF, 2007) as substantial reduction in crop yields, severe increase in vector transmitted diseases, drastic water shortage for more than 3 billion people, tremendous increase in frequency and intensity of storms, heat waves, floods, dramatic rise in sea level, etc.

6.3 Trends by 2015 – Animal Production

6.3.1 General Aspects

i. The world population will have around 7.2 billions people; ii. The world hunger problem is not solved by 2015, mainly by economic reasons; iii. Water scarcity will increase and also water stress more and more in industrialized nations; iv. The global warming has continued and very probably exceeded the level of 0.2 °C per decade.

6.3.2 Special Aspects

At least in the European Union (EU) it is stated that the energy accounts for 80 % of all greenhouse gases emissions and therefore this is the root of climate change and most air pollution (EU, 2007).

Due to a FAO report, 18 percent of greenhouse gases worldwide (measured in carbon dioxide equivalent) are due to livestock (Steinfeld et al., 2006). The contribution of farm animals to methane-emissions is estimated with 15 % (Flachowsky and Lebzien, 2005).

There has been a long and very controversial discussion on the methane entry depending on the type of farming: organic versus conventional. Today, it can be stated, that organic farming is no better for the environment, especially in the case of milk or chicken production (Milmo, 2007). In so far, it seems justified to say, that the best alternative to produce milk is to increase the yield per cow (Flachowsky and Lebzien, 2005). Genetic modifications and selections could not indicate any improvement concerning methane production (Brade et al, 2008).

As implication from the actual publications can be summarized, that only improvement of the useful lifetime per cow and a certain increase in yield per cow can be regarded as the most potential factors to reach a balance between profitability and environment, which means sustainability.

The worldwide average daily food intake currently lies above 2800 kcal/capita/day. Yet, the comparison between different types of countries indicates a huge difference in intake of animal food. On average the mean consumption of animal food is three times higher (about 1000 kcal/ capita//day) in industrial countries compared with other countries. In so far, it is estimated that the demand for such food (e. g. milk and meat) will strongly increase, particularly in developing countries. For the period between 2000 – 2050 an increase in meat consumption per capita and year is projected with 6 kg for North America and Europe, but with an increase of 23 kg for East-South –Africa and the Pacific (IFPRI, 2007). Therefore, the prices for food will increase and agricultural producers will benefit, but a larger number of poor consumers will have reduced access to food (Rosegrant and Thornton, 2008).

Overall, the increased demand for food will drive the production. All estimates show that there will be no cause to limit the sufficient production of food up to 2020.

Some uncertainty may arise if too much grain is used for production of alternative energy. Some data show that the world grain consumption will increase by 298 mill. Tons up to 2015 (Schumacher, 2006). The following Table 6.5 shows the absolute amount and the trend of using grain for ethanol production (Windhorst, 2007).

Practically spoken, this competition between grain for food or grain for energy production will mainly decided by the price level and clearly influence the food market and its price level.

Country	2005	2006	2007
USA	40	47	55
EU	4	4	6
Others	14	16	17
Total	57	67	78

Table 6.5: Grain application for ethanol production (million tons)

6.4 Implications for Food Production and Environmental Protection

The Universal Declaration of Human Rights was proclaimed by the General Assembly of the UN, 10 December 1948 (UN, 1948). In article 25, paragraph 1, it is said: “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care and social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.” This means concerning the food supply: The right to be free of hunger; the right for adequate food and the right for safe drinking water. The current situation however shows that 60 years later (in 2008), in contrast to this declaration, more than 800 million undernourished people live on our planet.

Therefore, my personal first priority consists in the objective to produce adequate food for all people at a reasonable price level.

6.4.1 Water Supply

More water is needed for agricultural, especially animal production but also for maintaining environmental services and ecosystem resilience. Without a drastic increase in irrigated area particularly in developing countries such as India, China, etc., the food production cannot be improved sufficiently. Irrigated land productivity is twice as high as that of rain-fed land (World Bank, 2007).

Since the total available volume of water is rather limited, the only way to solve this problem consists in enhancing the water productivity at all levels (FAO, 2005). One main factor will be the technical innovation of irrigation systems, so that more food can be produced with less water per kg of food. We have to take care that regions like South Asia and Near East and North Africa can easily realize a greater efficiency in water use. Moreover, also industrialized countries have a remarkable potential to improve their water consumption, especially in industrial plants and technical procedures.

One of the most important aspects for the future could be cleaning and re-using of water to save a lot of water.

A more or less political topic will be in what way the majority of population in industrialized countries could change their eating behavior in terms of meat consumption at un-physiological high levels (> 30 kg/capita /year). Concerning the water consumption, this point is of interest, since the production of 1 kg grain-fed beef requires about 1500 l of water, whereas 1 kg of wheat needs only 150 l water.

6.4.2 Sustainable Agriculture

No doubt, the needed improvement of water management in terms of increase in water productivity is one important part of sustainable agriculture. Over the last decades several proposals have been made concerning the optimal way to reach the goal of sustainable agriculture. The goal consists in finding the golden midway between sufficient production of food and minimal impairment of the environment.

Therefore, the World Bank President R. B. Zoellick was right, when he called for a “new deal”, in order to combat world hunger and malnutrition by a combination of emergency support and long term efforts to boost agricultural productivity in developing countries (World Bank, 2008). In addition, the FAO Director-General J. Diouf stated:

“We should use organic agriculture and promote it. It produces wholesome, nutritious food and represents a growing source of income for developed and developing countries. But you cannot feed six billion people today and nine billion in 2050 without judicious use of chemical fertilizers” (FAO, 2007).

This reflects the official FAO opinion, that the potential of organic agriculture is far from large enough to feed the world.

Moreover, it seems to be clear that organic farming is not better for the environment than conventional procedure; according to a report of the UK government (Milmo, 2007), it is even increasing the global warming more than intensive farming, in some cases. The report stated, that there are not sufficient data to assume that organic farming overall would have less environmental impact than conventional agriculture. Especially for special food production organic farming will impair the environment much more than conventional procedure. For example: organic milk production requires 80 percent more land per unit than conventional dairying and results in 25 % more carbon dioxide release; Organic chicken production requires 25 percent more energy to rear and grow compared to conventional procedure. The generated amount of CO₂ per bird amounts to 6.7 kg compared to 4.6 kg for conventional battery.

To follow the slogan “business as usual” is a misleading concept, because a lot of factors indicates that if we

continue with the actual food production system it will lead to crises in many parts of the world (Molden, 2007).

Consequently, to get a higher productivity with lower inputs systems like Integrated Pest Management System (IPM) and Conservation Agriculture (CA) should be applied ((FAO, 2007). In Europe a Common Codex for Integrated Farming was defined in 2003 (EISA, 2003). This codex describes in detail a set of common principles and practices that will enable farmers and growers to achieve a balance between sufficient food production, profitability, safety, animal welfare, social responsibility and environmental care. Nearly all European governments attempt to realize these principles of sustainable development in agriculture. Such an integrated system can be easily adapted to the specific climate and agriculture condition in a particular country.

Applying systems such as CA or Integrated Farming can significantly increase the productivity and at the same time reduce the use of chemical fertilizers by 30 % and pesticides by at least 20 %. (FAO, 2007).

6.5 Conclusions

It can be concluded that we need a marked increase in public and private investments to ensure a sufficient supply for feeding the world now and in the future. In addition, the right political decisions, new technologies and innovations to improve our understanding for an optimal management of ecosystems are needed.

A lot of things must be done to solve all these problems. As Dr. Diuof stated, "There is no one solution to the problem of feeding the world's hungry and poor. No doubt, this statement is right.

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7. Sustainable agriculture development policy

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Abstract

Sustainable development in agriculture requires a delicate long-term balance between farming practices and nature's ability to renew itself. Conventional farming has accelerated environmental degradation due to excessive use of an-organic fertilizers and chemical pesticides. To land productivity and maintain soil fertility, Organic Rice Farming (ORF) was introduced for smallholders. The objective of this research was to explore and develop strategic policy for ORF extensification. To analyze ORF complexity, this research used Soft System Methodology. Conceptual model was set up utilizing Total System Methodology (TSI) principles of pluralism, complementarism, and social awareness. System process includes the application of SAST and AHP techniques through expert survey and Focus Group Discussion. This study verified that ORF could maintain land productivity while also significantly increase farmers' income because of better net profit and high market demand for healthy foods. Conceptual model for ORF extensification was constructed to integrate regional public policy with stakeholders' engagement ensuring sustainability of eco-friendly farm practices. Policy implications include provision of affordable farm credit system delivered through Microfinance Institution to expand banking outreach. Capacity building for farmers association and trade support policy for organic products was recommended.

Keywords: *System thinking, SSM, organic rice farming, sustainable development, microfinance.*

7.1 Introduction

According to MDG's, world wide effort to reduce poverty into half of current condition, has to be in conjunction with sustainable development principles. In Indonesia, recent natural resources exploitation such as logging and deforestation, was observed excessive and often neglecting its ecological impacts. Even in agriculture, farming cultivation extensive use of chemical fertilizer and insecticides has lead to soil degradation and jeopardize biodiversity. In the long run, land productivity become less and farmers income decrease consequently.

During Asian financial crisis on 1997, Indonesia economic growth was down to -13%, but agriculture sector still hold on 0.2% growth. This is evidence that agriculture is the backbone of national economy. This sector provides staple food and industrial raw materials while also employed 44% of working force. Unfortunately, most of them are smallholders live in rural areas with poor condition. Hence, the national strategic policy is directed toward poverty alleviation through agriculture revitalization and rural infrastructures.

Recent government policy for poverty alleviation through agribusiness includes provision of production inputs, food diversification and improvement of financial services in rural area. To prevent further damages on rural living condition, nowadays there are new policies introduced to promote organic farming as ecological friendly practices.

This is a complex policy issue, therefore this research was aimed to study interlinked factors of sustainable agriculture in order to design integrated policy instruments. This research focused on main food crop, i.e. rice, where the case study of organic farming was carried out in West Java Province, Indonesia.

7.2 Research Methodology

Due to highly complexity of the subject matter, this policy research had applied seven stages of Soft System Methodology (Checkland, 1981) to get comprehensive analysis and to extract knowledge from various interdisciplinary experts (see Figure 7.1). Conceptual model of the relevant system was designed to harmonize economic, social and ecological aspect of Organic Rice Farming (ORF).

This research uses Total System Intervention approach (Jackson, 2000): mainly complementarism, social awareness and commitment to common people welfare. System technique includes SAST (Mason and Mitroff, 1981) and AHP (Saaty, 1983) through expert survey and in-depth-interview. Field observation and agribusiness feasibility evaluation was done thoroughly in several rice production areas.

7.3 Situational Analysis

Regional case study shows how food self sufficiency effort are placed for growth in agribusiness. It related rice production process to the dynamism of market price and technological inputs. Even through, the ORF has only two cultivation period per year compare with three times of Conventional Rice Farming (CRF), its productivity is higher (16-23 ton per hectare) than the other one (14-20 ton per hectare). Net profit of ORF is 1000-1500 US \$ per hectare while CRF only 200-500 US \$. ORF has B/C ratio at 2.2-2.4 and CRF is 1.5-1.6.

At present, organic product sales is booming in various supermarkets for middle and upper class consumers where

healthy foods become major concern. Consumer price for OR is 1.41-1.63 US \$ per kg whereas common rice only 0.71-0.76 US \$ per kg. Cash flow analysis on rice production business shows that Pay Back Period for ORF is 8 year while CRF is more than 11 years. In conclusion, ORF is more attractive and profitable than CRF.

However, ORF still relatively small in plantation coverage and hardly found at less developed region. There are several constraints for ORF practices, which are:

- (1) Most farmers already familiar with chemical fertilizer usage, and resistance to change is high
- (2) Unavailability of organic fertilizer in nearby production area
- (3) Big fertilizer company heavy and costly product campaign and promotion
- (4) Low access to financial sources like rural bank
- (5) Inadequate market infrastructures.

Considering the imbalance between high demand and low supply, there must be good decision policy to promote ORF in wider area for ecological purposes.

7.4 System Modeling

The theoretical reference for policy conceptual model is Comhar principles of sustainable development which are social equity, respect for ecological integrity and biodiversity, satisfaction of human needs by the efficient use of resource and Good Decision Making. Mental model of ORF policy is based on complementarism of its overlapping factors as shown in figure 7.2.

Formation of the intended policy model was consolidated under essential assumptions from stakeholder input. The main assumptions are:

- (1) Local authorities involvement on organic fertilizer production and distribution
- (2) Availability of raw materials for organic farming fertilizer in surrounding rice field
- (3) Farmer willingness to produce their own organic fertilizer
- (4) Soil conservation on farming practices
- (5) Consumer awareness of healthy foods.

Priority of strategic planning related to the ORF model building was set up through expert survey using AHP procedure. This study identified several policy reforms to be considered:

- (1) Local government regulation to support ORF
- (2) Central government agency for Micro Enterprise Development
- (3) Extension and promotion fund for ORF
- (4) Extensification of ORF in less developed area
- (5) Partnership between farmer association with traders
- (6) Specific farm credit system with affordable loan interest.

7.5 ORF Policy Model

Conceptual model for ORF extensification policy was designed according to relevant assumption and priority setting for strategic plan. With refer to Clean Development Mechanism (CDM) procedures, the model as public policy instruments should be divided into institutional and financial system framework. Moreover, there are four system elements identified as growth factors which could affect the effectiveness of government support to ORF extensification. Those essential factors are local procedures for organic fertilizer, availability of community extension services, ORF technology adaptation and organic products certification. All of those factors must be coordinated and interlinked through institutional arrangements and capacity building activities as show in figure 7.3.

7.6 Policy Implication

After model validation by subject matter experts using face validity technique (Sargent, 2006), there is consensus that policy implication of ORF extensification should focus on specific financing scheme to accelerate the expansion. This research verified that the most feasible scheme is by **micro credit** because smallholders farm own less than 0.3 hectare in average. Additionally, to encounter high interest charged by money lenders for most micro credit, there must be collaboration efforts between banking sector and related government agencies.

Starting November 2007, as part of poverty alleviation program, the government together with Central Bank launched special micro credit scheme called **Kredit Usaha Rakyat (KUR)** where 70 percent of loan collateral provided by state owned Credit Guarantee Agencies. Ministry of Finance has allocated budget for guarantee fund with expectation the banks will be able to distribute at least ten times loan amounts for KUR.

As May 2008, Bank Rakyat Indonesia already disbursed KUR under 500 US \$ per loan more than 400 million US \$ with average loan of 400 US \$ per micro enterprises. However, this study has analyses that KUR-scheme alone will not enough to accelerate the growth of organic farming because the loan interest rate is considered too high for smallholder farmers.

Therefore, KUR should be combined with other scheme which has ability to lower loan interest, such as Ministry of Agriculture subsidized interest loan scheme for food (KKP-E). The program **KUR-Mikro** scheme might be introduced (see Figure 7.4), whereas Micro Finance Institution (MFI) could participate in delivery mechanism in order

to enhance bank outreach.

Furthermore, with regard to policy inputs from various FGD, this research recommend community empowerment program to strengthen **KUR-Mikro** scheme especially in left-behind regions. To ensure product marketing, local trading companies should be supported by region logistic agencies for price stabilization.

From the bank point of view, this **KUR-Mikro** scheme will reduce their credit risk and yet maintain its CAR according to the BASEL-1 accord. For future risk management in further extensification of ORF,, banks must comply to BASEL-2 projected CAR minimum base. Therefore, further research on banking and MFI linkage should be planned to study market risk distribution.

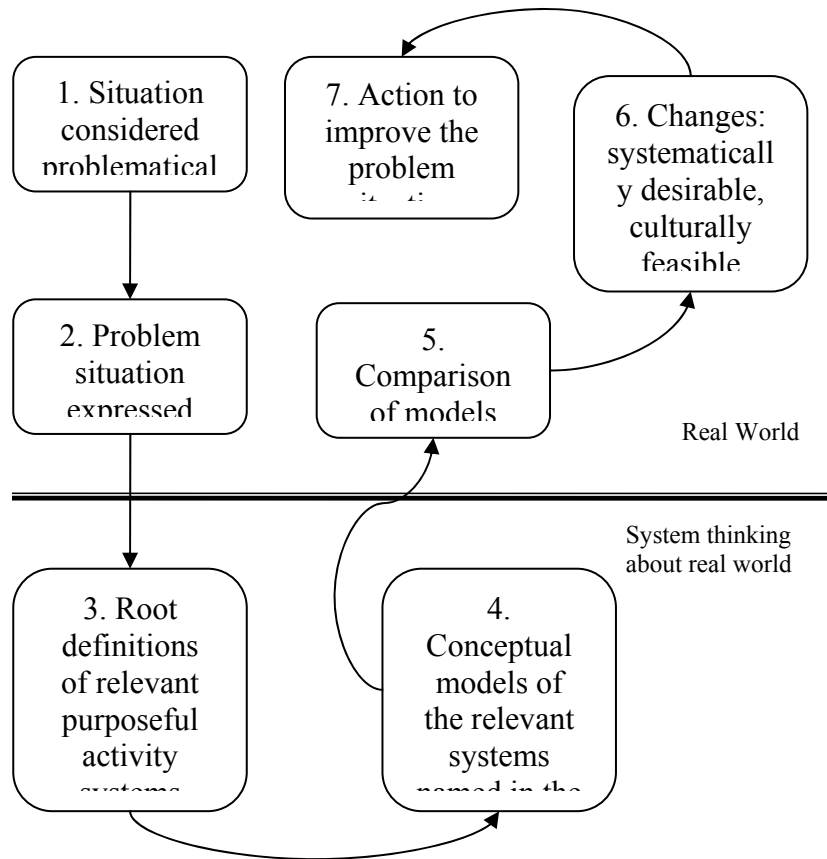


Figure 7.1: The learning cycle of soft system methodology (Checkland, 1981)

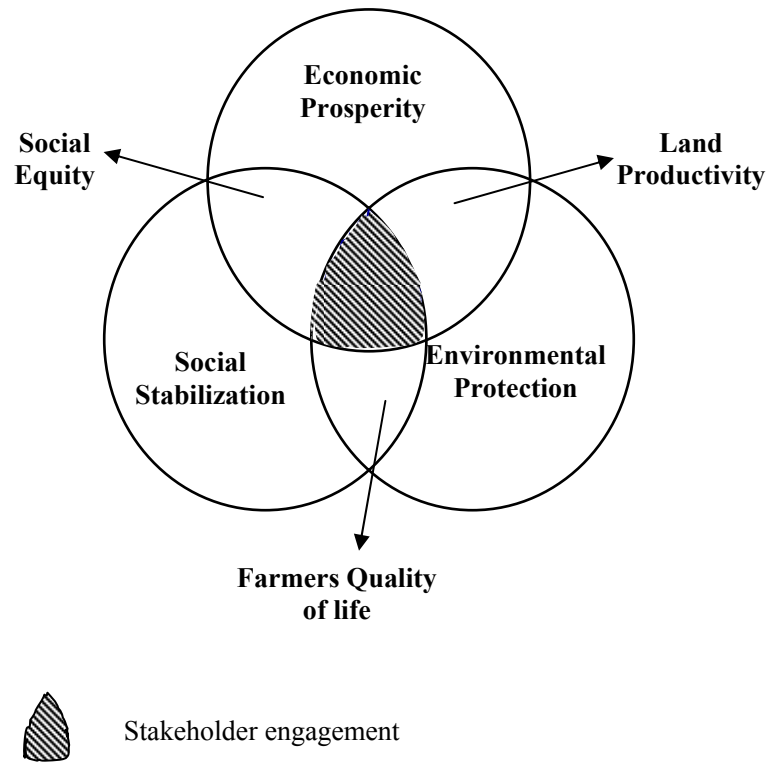


Figure 7.2: System thinking for ORF sustainable development objectives

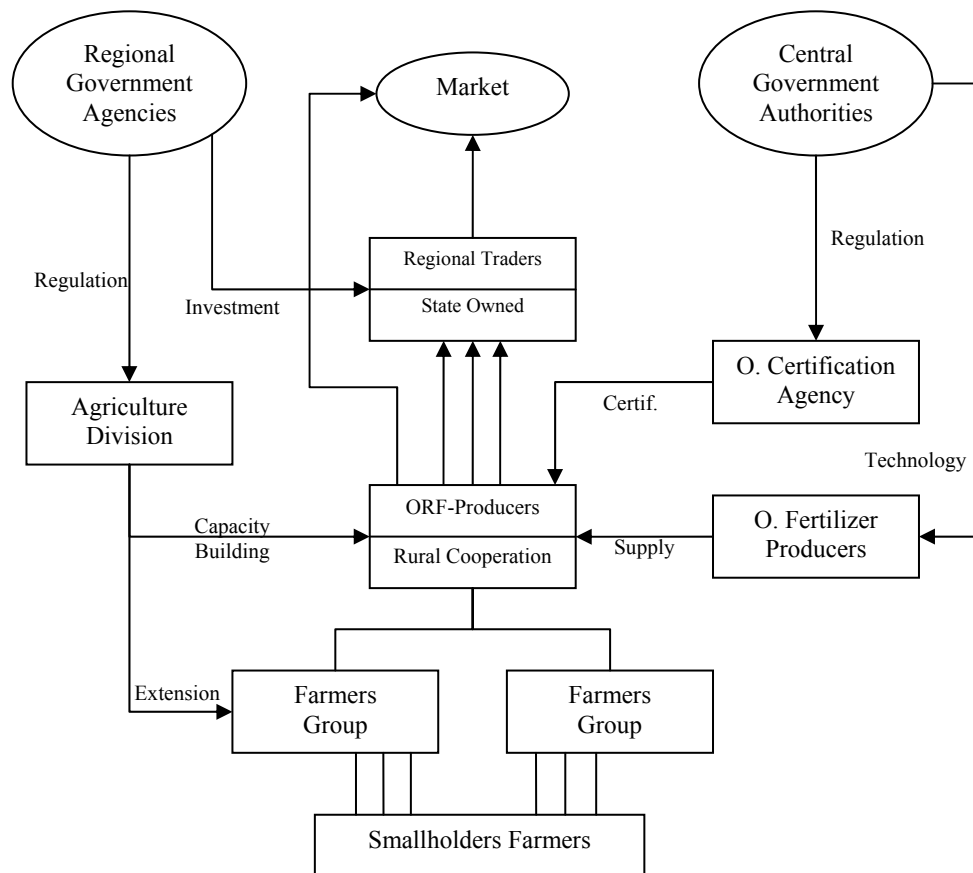


Fig. 7.3: Simplified ORF extensification model

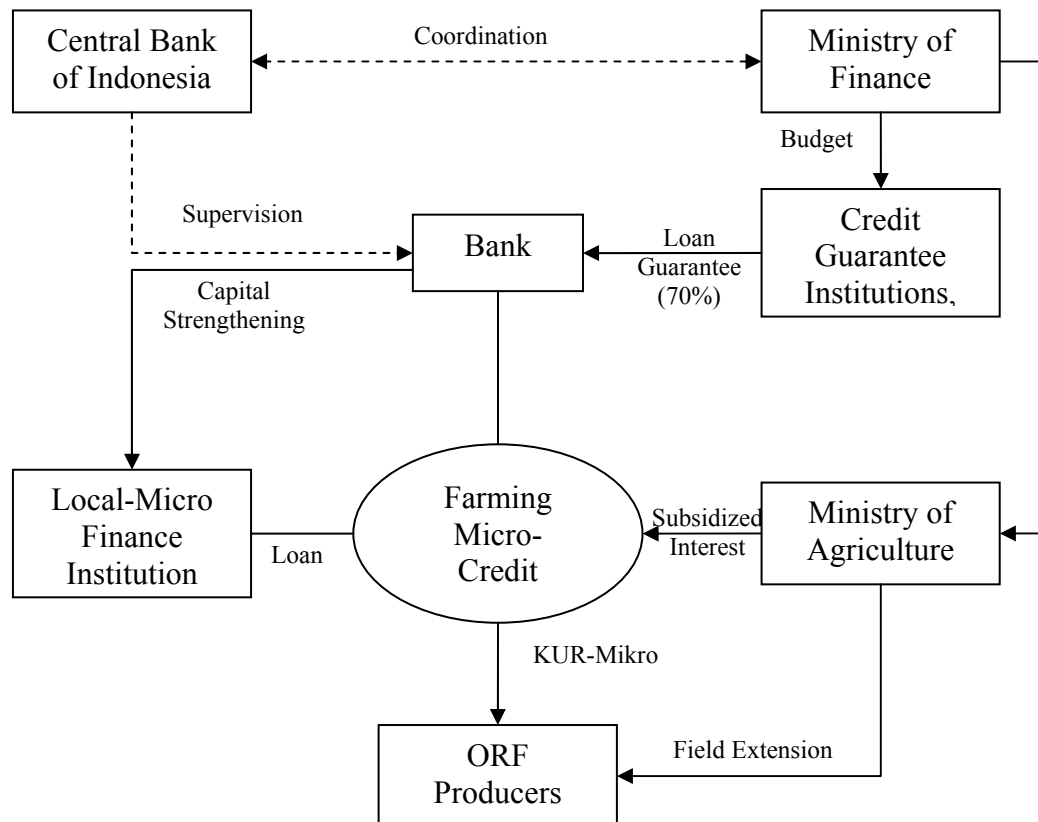


Fig. 7.4: ORF financial support system

7.7 Conclusions

SSM technique as well as TSI guidelines was extremely useful in developing complicated policy model such as ORF extensification program. The system thinking in this research was found effective in harmonizing three overlapping sustainable development objectives as stated by MacNaughton and Stephen (2004). Strategic assumptions and priority setting were reasonably accommodated in the conceptual model to activate stakeholders' engagement.

Case study concludes that ORF is able to maintain land productivity while also increase farmers income induced by better net profit and high demands. Policy implication of the ORF extensification model requires collaborative efforts of numerous public and private institutions. New farm micro credit scheme (**KUR-Mikro**) having loan guarantee and subsidized interest rate, will enhance ORF business opportunity.

Finally, capacity building for farmer association and ORF technology diffusion should be implemented by regional authorities intensively. ORF will contribute to sustainable development goals achievement in line with poverty eradication in rural area.

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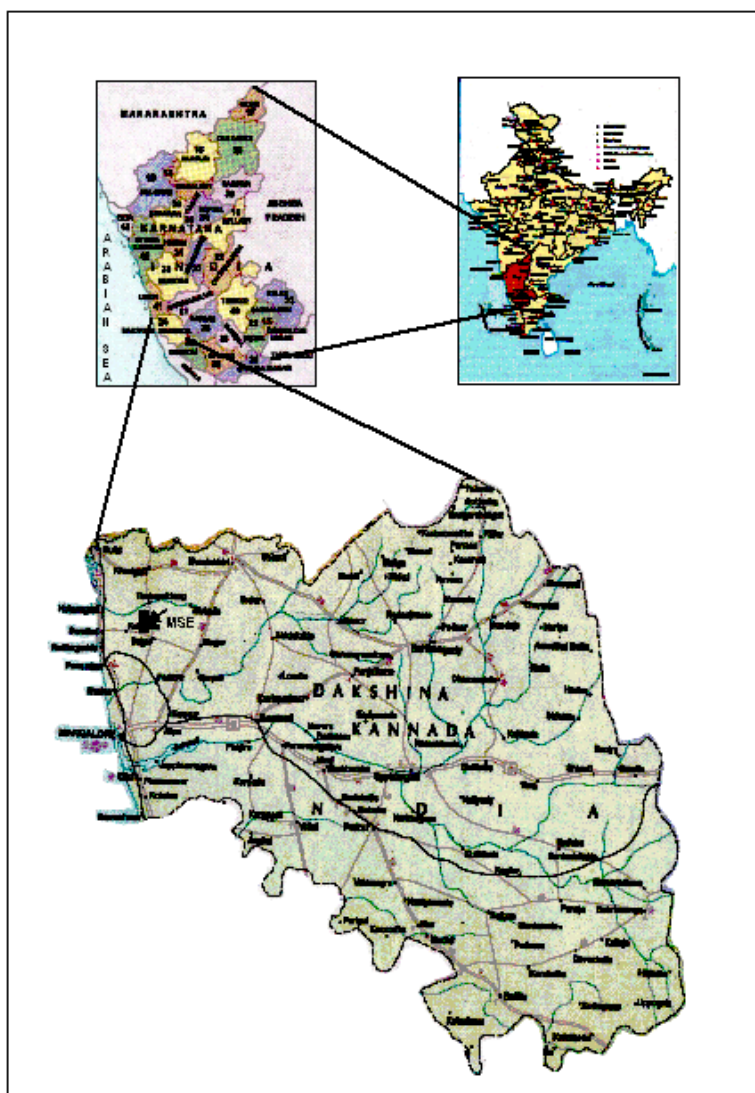
8. Road map for sustainable future of indigenous communities: a case of coastal India

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Location of Proposed Study Area

8.1 Introduction

Today humanity at the global level is experiencing an unprecedented impasse. This impasse is the result of a dreadful model of development that modern societies have experimented and subsequently replicated over and over again. This model of development carried with it a specific historical experience that it mindlessly universalized and a static set of goals that it recklessly pursued. The end result could not have been anything but catastrophe. This cataclysm is characterized by lustful destruction of nature; thoughtless harm on environment; utter disregard for communities, history and culture; and disgraceful onslaught on everything that the nature and humanity have struggled to create. As victims of this upheaval, humanity has lost a sense of its history and a vision of future. It is restlessly contemplating its emancipation on a slippery and uncertain present.

What are we witnessing everyday? – Onset of climate change; ever-increasing number of natural calamities like earthquakes, floods, and draught; disheartening poverty and hunger; huge divide between the rich and the poor; ruthless and brazen appropriation of nature and its resources by a few; displacement of communities of people in the guise of development; unheard diseases, syndromes and maladies threatening health and life of people; pollutions of all kinds making life miserable. This is the life that we have created for ourselves and this is the life that we are going to leave behind for the future generations. And more importantly, this is a world where the greater humanity is in total disarray and nakedness.

Social Darwinism has been the cry of the day. People having lost their sense of history and roots, culture and community could not indulge in any kind of collective imagination. Common humanity has only remained a lip service. What actually reigns supreme is the idea of a self-centered instrumentalist individual who is all the time engaged in the pursuit of fragmented desires. Ours is an era of violence typified by ruthless and oppressive state, amorphous civil society, an unabashed march of corporate interests and futile grope of unachievable humane objectives, and endless disintegration of all possible imaginations of collectivity. Very surprisingly it took a very long time to realize what happened, what is happening and what is in store for us.

8.2 Ray of hope

Although the scenario looks gloomy, there have been attempts in the direction of problematising the contemporary discourse on development, climate change system, and other crucial issues concerning the creation of sustainable future. These attempts have tried to raise issues with the dominant formulations and paradigms that have all these days dictated us as to what should constitute a good world. These attempts have enabled us to look at the whole question in a very different and radical perspective through which we could meaningfully pursue the objective of creating the conditions for sustainable future. This involves rediscovering, reconstituting, and reconstructing the domains of meaningful social, cultural, economic, and political action such as the State, Civil Society, NGOs, Indigenous Community initiatives, vibrant social constituencies, and Local Political Institutions.

Against this background this paper tries to portray the contemporary predicament of a derived agenda of development at the local level in order to engage with the problem of sustainable future. The location we have chosen to highlight issues of development and options for sustainability is Mangalore, a coastal region of southwest India. Our engagement with the issues of development and sustainability is to chart the road map to implement and operationalise local agenda 21.

8.3 Imperative of Local Agenda 21

Local Agenda 21 is perceived to be a blueprint that provides a framework of actions that can be taken to contribute to global sustainability in the new millennium. The Agenda emphasizes that most environmental challenges have their origin in local activities influenced by predominant concepts and programs of development. As such Local Authorities play a vital role in improving environmental, economic and social sustainability at the local level and this could be achieved by putting into action the principles of sustainable development into strategies that are relevant to local communities. Local Authorities are one of the nine 'major groups' named in Agenda 21 as being fundamental in working towards sustainable development. The others include women, youth and children, ethnic groups and their communities, non-government organizations, trade unions, business and industry, scientists and technologists, and farmers.

The Local Agenda 21 processes recognize that there are difficulties in implementing the principles of sustainable development and it is vital to overcome these difficulties in securing humanity's sustainable future. The crux of the matter in this regard is the leadership. Local authorities – corporations or municipalities – more often than not, provide the needed leadership. Increasingly this leadership is being demonstrated through the adoption of Local Agenda 21 processes. In this sense Local Agenda 21 is unique as it emphasizes partnership, participation and involvement of the local community, government and industry in sustainable planning and management.

8.4 Mangalore – A Regional profile

Mangalore is located in the coastal region of Karnataka State and lies between latitudes 12.39 and 12.51° and longitudes 74.08 and 78.50°. The region is predominantly a hilly-terrain surrounded by the Arabian Sea on the west and the mountains on the east. Heavy rainfall, small rivers, and swamps like any other part of the coastal region of southwest India characterize Mangalore. The region is essentially a part of the biodiversity hotspot, the Western Ghats and inherits a variety of biomes with high life profiles. The biomes of importance for life include streams, rivers, marshlands, traditional forest reserves, mangroves, estuaries, and tidal zones. Each biome, embodied with its own characteristic, has invaluable versatile flora, fauna and microbes. The terrain of Mangalore is of aesthetic value and the greenery adds to its beauty. The native people live amidst nature with inherited values to protect the native flora and fetch part of their livelihood through plantation and traditional agricultural crops. Each traditional house invariably possesses tree species of ecological and economic value. The following table gives a summarized account of the physical and demographic details of the region.

8.5 Physical and Demographic details of Mangalore Region

Area in sq. kms.	843
Total Number of Households	173,804
Rural	53,191
Urban	120,613
Number of inhabited villages	88
Total Population	882,856
Rural	281,777
Urban	601,079
Projected population (2011)	1,115,100
Population density (per sq. km.)	1,048
Sex Ratio	1,031
Literacy Rate (7+)	87.3 %
Work Participation Rate	
Male	55.8%
Female	34.1%
Workers	395,311
Cultivators and agricultural laborers	32,710
Workers in household industry	98,801
Other workers	263,800
Normal Rainfall	3,707 mm (120 rainy days)
Land Utilization (hectares)	
Utilized Geographical area	85,153
Forest	2,902
Land not available for cultivation	34,025
Other uncultivated land	20,888
Major agricultural and plantation crops	Paddy, pulses, areca, banana cashew, coconut, sugarcane, vegetables, coco, rubber
Industries	
Small Scale units	8,235
Medium scale units	18
Large scale Units	04

Table 8.1: Physical and Demographic details of Mangalore Region

Source: 2001 Census Report, Government of India.

8.6 Mangalore Region – Community Profile

Looked at historically, the region is a multi-cultural zone with differences and variations in language, religion, castes, communities, and cultural traditions. Being predominantly agrarian in character the region represented hierarchy and difference of a feudal order causing problems of disadvantage and marginalisation to a significant section of the people living here. At this juncture the early phase of modernization with the advent of Christian missionaries brought about remarkable changes in the otherwise stratified state of the community. The Christian missionaries, particularly the Basel Mission, through their efforts of community development in the areas of education, health, and employment addressed the problems of the poor and marginalized. Consequently the region became relatively more harmonious than ever before.

However, the subsequent phase of top-down modernization project in independent India had its inevitable repercussions in the region as well. This modernization and development programs shaped by it further displaced, divided and pushed people to positions of disadvantage and exclusion. As these people found themselves in the wrong end of development programs, they could never become the organic part of the development processes. The situation was further aggravated with the advent of globalisation and its neo-liberal package.

8.7 The task before us

Given the dynamics of on-going process of globalization and its neo-liberal development model, it is expected that there

will be a major shifting of population from rural area to urban areas and consequently the urban population is expected to rise enormously. Therefore, the impact of developmental activities on the natural environment and on the overall quality of life and well being due to increasing urban activities is a major concern to local governments. It is imperative that the entire urban planning and development must be people centric and must take into consideration the climatic, economic and social issues. Special care is necessary in the areas of sustainable use of natural resources, pollution prevention and control and environmentally sustainable infrastructure development that meets the requirements of the majority.

The Mangalore region has become one of the major centers of globalization in India. The proposed Mangalore Special Economic Zone (MSEZ), particularly with its plan for petrochemical complex, in this region is going to fundamentally alter the development tapestry in this region. It is threatening to fundamentally alter the sustainable land use pattern of this region leading to irreversible damage to the sustainable livelihood of millions of local and indigenous communities. The modernization of agriculture for commercial purposes, chemical and petrochemical complexes are not only destroying the sensitive coastal eco system but also causing permanent damage to environment and climate change system. The rural population that is getting displaced due to the dynamics of neo-liberal development paradigm is migrating to the urban Mangalore region resulting in further problems of urbanization like slums, shortage of drinking water, transport problems, and problems of waste disposal. The paradox of globalization is evident in this region in that the high growth rate is creating an island of prosperity, leaving the majority of both urban and rural displaced population in poverty and despair.

The focus of our efforts must, therefore, should be to study the developmental activity of local authority of Mangalore region from the perspective of poverty alleviation, land use pattern and environment and climate change system. This would help us to assess within Agenda 21 parameters as to how the developmental activity is impacting the sustainable livelihood of local communities and indigenous population and suggest and popularize the development paradigm enshrined in Agenda 21 not only with the Mangalore region local government but also with other major groups.

It is heartening that the Mangalore Local Authority, as other local authorities in India, is compelled to recognize the significance of sustainable development. The Local Authorities in India are under democratic compulsion in developing and implementing systematic strategies to provide health and well being of the communities on a sustainable basis by sustaining the environment and Mangalore region is no exception. In this regard it is necessary to provide guidance to:

- 1 Groups and individuals who are keen in knowing as to how to gain commitment from key decision makers in Mangalore region to establish a Local Agenda 21;
- 2 Local authority in Mangalore region to commence and implement the Local Agenda 21 in earnestness;
- 3 The exiting initiatives and endeavors that are working towards sustainable development but need further clarity and direction on a particular aspect of their work
- 4 Those initiatives that are progressing well and are in need of further ideas.

8.8 Plan of action

Effective Initiation of Agenda 21 demands a group of people who basically act as a core group and a think tank. This group could comprise of people of goodwill from different walks of life such as academic and non-academic intelligentsia, researchers, students and youth, social activists, journalists, bureaucrats, women, local communities and ethnic groups, and local authority. This core group should undergo a brain storming to get familiarized with the utility of Agenda 21. This would help the group to engage with the ground preparation of sensitizing the people towards the agenda; gather relevant information; and suggest the pragmatic ways of effective implementation of Agenda 21.

8.8.1 Ground preparation for Local Agenda 21 in Mangalore Region

Though community groups, government agencies or NGOs act as catalyst in initiating the Local Agenda process, the effective implementation of the program is dependent on the local authority's active involvement. The principles of sustainable development must be owned, accepted and implemented not only by the broader community but also by the local authority. Therefore, to begin with, the core group must prepare a ground for starting Local Agenda 21 process. Ideally, there should be a Mangalore local authority resolution to initiate the local agenda process. There is a necessity to enter into a dialogue with various stakeholders of the region to gain support from across the local community. The stakeholders may be, apart from Local Authorities, nine 'major groups' named in Agenda 21 as being fundamental in working towards sustainable development.

8.8.2 Inventory Development of Mangalore Local Authority

This will help in reviewing the existing and relevant strategies and activities of the local authority. The knowledge about the existing strategic work and to what extent the community has been involved will mean that the Local Agenda 21 can build on what already exists without duplication. The knowledge also provides needed background information for the remaining Local Agenda process. The inventory is to be built by using the sources like – annual report of the local authorities; economic planning document; report on Local infrastructure planning strategies; waste management

strategies; regional development plans; coastal management plans; cultural plans; local conservation strategies and heritage management; and reports prepared by independent civil society groups. The inventory built on the basis of the above and other sources would give sufficient information regarding discrepancies between existing visions, objectives and goals and same could be attempted to be removed to make the Agenda 21 process more dynamic and meaningful.

8.8.3 Exiting Management practices

Taking stock of the existing management practices of the local authority is essential to evaluate whether the existing management practices of the local authority is in tune with the realization of sustainable development or not. The following criteria should be used in taking stock of the management practices:

- 1 Whether the local authority is preoccupied only with short term plans at the cost of long-term plans that are needed to achieve the principles of sustainable development?
- 2 Do the authorities take cognizance of the long-term sustainable development implications of the new proposals?
- 3 Is decision-making process holistic to take account of socio-economic and environmental factors?
- 4 Does the existing system accommodate the development of innovative solutions that would help in achieving sustainable development?
- 5 Whether there is community participation in decision-making and in the execution of the development projects?

8.9 Conclusions

The successful implementation of Agenda 21, we hope, would enable us to overcome the current impasse and ensure us a more humane and sustainable future by performing three crucial roles. First, it monitors the on-going process of development with a critical perspective. Secondly, by performing that role it avoids impending hazards involved in the existing processes of development. And finally, it directs the efforts development towards the creation of a sustainable future for the majority of humanity.

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9. Micro, Small and Medium Enterprises Development Policy

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Abstract:

Over the recent several years the strategic role of the micro, small and medium size enterprises to overcome Indonesia's national socio-economic problems was established, which requires good governance for developmental policy planning and implementation. Cases of it are briefed in this contribution.

Key words: Indonesia, micro, small and medium size enterprises, policy, systemic thinking, sustainability

9.1 Introduction

It is institutional agreement that betterment of Micro, Small and Medium Enterprises (MSME) could overcome national problems on poverty alleviation, job creation, income disparity reduction and development of under-developed regions. The strategic role of MSME requires good governance for developmental policy planning and implementation because it might influence national economic sovereignty within globalization process.

At present, about 99.98% of business units in Indonesia are MSME which amount to 48.9 million units over various sector in agriculture, manufacturers and services. More than 85.4 million MSME work forces spread from urban area down to remote places. MSME contribute 57% of product and services. Those facts put MSME at highest priority for increasing GDP as well as distributing people prosperity over the country.

MSME development strategy in Indonesia was stated in the Medium Term Action Plan (MTAP) on 2002, back up by studies of ADB SME-TA. The MTAP contains multi-objectives which are:

- (1) To create conducive business environment for MSME growth through institutional arrangement for MSME policy formulation and implementation, national and local regulations harmonization and information access supports.
- (2) To strengthen MSME competitiveness and capacity with non financial incentive such as Business Development Service Provider, Cluster system and Incubator for start-up companies.
- (3) To increase MSME access to various source of funds such as Micro Banking and Micro Finance Institution (MFI).

This research aims to analyze Indonesia current condition and situation of MSME empowerment and financing practices and to recommend policy instruments to stimulate solutions over MSME classical problems. This policy research applies the concept of "system thinking" and seven steps of the learning cycle of soft system methodology (Checkland, 1981). This study used participatory approach through Focus Group Discussion, In-depth Interview and field observation. Literature study about legal aspect and other countries best practices were carried out extensively.

9.2 Problem and Constraints

The main problem in the making of policy on MSME was the disagreement among the decision makers about the **definition** and **criteria** differentiating the three scales of enterprises, so that it was difficult to make the planning activities either for empowerment or financing of MSME.

The main problem faced by micro enterprises, often called as informal sector, was the non-existence of law protection for their business. Due to the unclearness of the definition and criteria of micro enterprises, the formal banking institution difficult to set standard procedures for micro credit and what kind of policy relaxation can be materialized without violating the banking law.

The specific problem still faced by SME was inefficiency of bureaucracy in handling the legality aspects such as permit procedure. Economic externality factor due to the increase of world oil price and other energy sources also affect SME production feasibility. Limited provision of service product from the financing institution, particularly credit guarantee system was classical problem for SME. The availability and quality of Business Development Service (BDS) for SME and the limited technological resources also inhibited the growth of the prospective SME.

Effective MSME empowerment requires the review of the influence of existing policy processes to condition and dynamics of related institution involvement. The influence would also cause differences in the degree of legalization of various institutions, particularly at rural level, recognized as formal and informal institutions.

Community participation in decision making process is a social constraint for collaborative effort to achieve the local economic development goals. The application of banking prudential principle in credit disbursement by means of 5C (character, capital, capability, credibility, collateral) is difficult to be fulfilled by MSME. Consequently, that only 39.06% of MSME could access the bank services.

9.3 Policy Analysis

By comparative study from other countries which succeed in MSME development (China, Japan, Korea and Taiwan)

there are seven main policies were identified to increase developmental efforts effectiveness, i.e.:

- (1) Open up financing channels through Micro Financial Institution (MFI)
- (2) Strengthen structural reformation and regulation
- (3) Accelerate credit guarantee system and tax incentive support
- (4) Establishing business environment for fair competition
- (5) Improving public services system and infrastructure
- (6) Empowering local institutions and entrepreneurship
- (7) Encourage technological innovation and its dissemination.

This study analyzed those policies relevance to the Indonesia practices of MSME empowerment and financing conducted by the government, private business and banking sector. The result of this comparative analysis was used as basic assumptions for the improvement of current policy and action plan.

9.3.1 Government

MSME empowerment policy conducted by the central government together with the local authority is directed to achieve the goals of increasing productivity and value added of SME products, improving MSE capacity in the rural areas and under-developed regions, and encouraging the technology based new entrepreneurs.

In the integration of institutional development policy and MSME empowerment mechanism, it is necessary to consider combining top-down with bottom-up approach while also appreciate external inputs. Conceptually, the government task in empowering MSME should place its role as 'advisor', and develop community participation framework from their socio-cultural element. Social institution in the community becomes **internalized** as of each community member expressed in their daily business practices.

The sustainability of the MSME program would be more insured if all elements involved participate from planning up to implementation. People participation could improve community knowledge and build their social interest, so they able to detect any deviation in policy instruments of MSME support.

The participation aspect of community development is essential to micro enterprises because relate to human resources and social institutions, so that the **sustainability** of the government's support can be attained.

9.3.2 Private Business

Business companies, particularly the big enterprises have been involved in SME development through partnership mechanism such that applied by ASTRA group successfully through the **cluster system**. Various types and versions of cluster system have been implemented by several business and governmental institutions with support of international agencies. One of the cluster systems that can be considered as practical reference is conducted by Ministry of Industry.

The cluster support system activity includes training and managerial assistance to SME on the product quality standard, market information and efficient procurement mechanism. Other technical assistance includes product test, market research, trade/export promotion, legal advocacy and public communication. For that purpose, assistance fund from off-takers companies is needed either in cash or in line as part of their corporate social responsibility. Selection criteria are sector with growth potential, ability to expand labor income and job opportunity, and commitment of the off-takers on end-product marketing.

BDS Provider, business consultants, trading associations and organizations of private business could be the reliable source of MSME services. The value-added support activity could include ISO trainings for SME, as well as certification of quality standard. Scope of organization that could give aids for MSME is numerous, not only local institutions but also international agency and multinational enterprises.

9.3.3 Banking

At the beginning of December 2007, Bank Indonesia (BI) had lowered the BI-rate down to 8% with the objective to stimulate normalization of banking loan interest so that the real sector has more flexible in conducting new investment or strengthening its working capital. However just few of MSE that has reliable access to banking, and generally bank still tends to prefer tertiary sectors, in services and trades.

Some policies have been issued by BI related to MSME concerning the deliverance of Small Enterprise Credit and providing technical assistance for MSME development. Private bank also conducts special outreach efforts including the utilization of formal MFI in order to be able to expand their services to MSE in remote areas. The Ministry of Finance together with BI has utilized the government budget for MSE credit. Up until now this program runs well with relatively low Non Performing Loan and most of the involved MFI sustain.

In 2005, the Ministry of Cooperatives and SME in collaboration with Local Development Bank issued Financing Scheme for capital strengthening of MFI with cooperative status. This scheme combined financial assistance with capacity building. The magnitude of loan, sectoral distribution, utilization and repayment of each revolving fund was managed by MFI cooperatives. This program will proceed of direction the Revolving Funds Management Agency founded in 2006 by the Department of Finance upon the suggestion of Ministry of Cooperatives and SME.

The problems being considered as in technical matters are assessment of the **credibility level** and supervision for MFI to maintain business sustainability. Therefore, professional certification for inspectors and manager of MFI

cooperative is needed in collaboration with *National Certification Agency* and related local authorities.

9.4 Policy Reform Design

This study formulates the policy reformation of MSME empowerment and financing on the basis of sustainable development principles. This was concluded from review of the government experiences which deliver large amount of state budget through various projects but actually functioned only during the project activation period.

On the other hand, the efforts from the government and BI which consistently supported the interest of MSME have resulted various valuable learning. This study summarizes the learning process and found the keywords from the efforts in empowering and financing SME, that is,

From this keyword, MSME policy instrument can be designed with the sustainable development principles which are satisfaction of human needs by the efficient use of resources, social equity and good decision making. Hereby MSME policy requires three prerequisites:

- (1) Incentive system applied by the central and local government has to guarantee the independent of MSME so that their business could grow on the basis of fair market mechanism.
- (2) Functional role of financial sector in MSME investment and working capital has to rely on effective regulation and supervision aspects, particularly for micro in developing area.
- (3) MSME utilizing natural resources as their raw materials must consider ecological conservation as well as to prevent pollution of production wastes which could make living environment degradation (green business).

The policy design of MSME empowerment and financing remains to focus on poverty reduction target and expansion of job opportunity. Currently in Indonesia, on July 2007, there was 37.17 millions of poor population (poorer of the poor) (17.75% of the total population), and if added by the economically active-poor and less affordable people amounted to 76.4 millions. Generally the poor community lives in left-behind regions, coastal areas, and remote islands where 60% of them work in farm. Therefore, MSME policy has to be prioritized for under-developed regions and agricultural-marine sector.

In 2007, the open unemployment was recorded as much as 9.8% (10.6 millions of labor force) so that the policy on MSME empowerment and financing is also needed to perform in the industrial and municipal area where the flow of urbanization still going on. For that purpose, specific policy instruments were formulated:

- (1) Cluster System for Regional Priority SME Commodities
- (2) Integrated Incubator System for Technology-based SME
- (3) Credit Guarantee System for Micro and Small Enterprises
- (4) Regulation and Supervision System for Micro Finance Institution

9.4.1 SME Cluster System

Cluster system becomes one of the strategic approaches for the development of MSME, since cluster is proven beneficial either for the business network itself or for regional economy. The cluster characteristic as economic agglomeration which involving upstream and downstream industries and the possibility of combining among the business scale becomes best alternative for the acceleration of MSME development.

Cluster development process is strongly related to collaboration mechanism among the stakeholders within the cluster. In business context, Participative Partnership mechanism should become the way of increasing efficiency, effectiveness and productivity of business network supported by access to market, capital and technology through management capability improvement (see Figure 1).

There are four important aspects used as the approach in forming the framework of Participative Partnership, i.e., business aspect to secure feasible business, social welfare aspect to guarantee business benefit delivery, participation aspect of the stakeholders to maintain the sustainability of business and technology aspect to secure production techniques and quality.

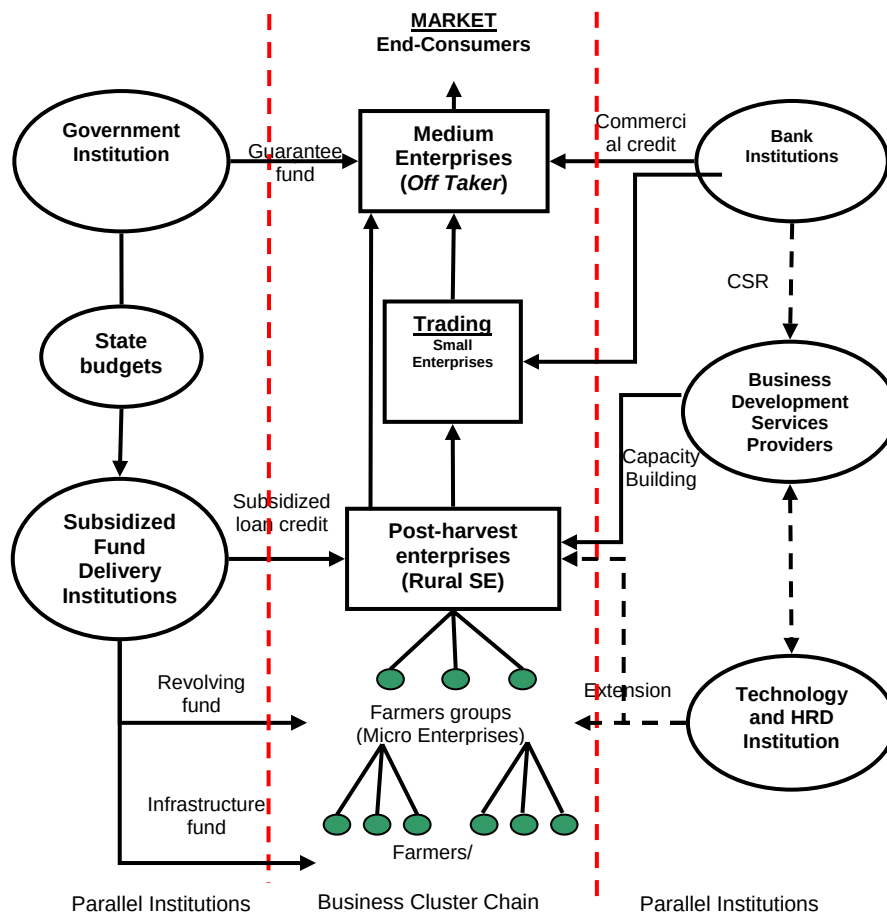


Figure 9.1: MSME Cluster System –Agriculture

9.4.2 Integrated Incubator System

The existence of Incubator is important because generally SME is volatile in nature and easy to failure especially in the start-up phase. To overcome the situation, Bank Indonesia (BI) and the government provided start-up fund through venture capital state owned company.

Incubator is an institutional that provides infrastructure and services in order to increase added value of business carrying the idea and concept of technology and entrepreneurship (technopreneurs). Business incubator gives aids in education, training and internship, supported by technological, management, market, and capital access as well as information exchanges.

Due to its technologically based characteristic, the business incubator in general is developed by university in conjunction with commercialization of its technology. Beside university, R&D institution either individually or collaborating with other agencies, carry out business incubator with the objective to stimulate new entrepreneurs.

Empowerment of public-private sponsorship for business incubators needs integrated management within Technopark System which refer to best practices in the Beijing Business Incubator Institute. The professional incubator role becomes very important because start-up MSME is usually still weak in planning business entity and lack of network of fund sources, technology and market information.

9.4.3 MSE Credit Guarantee System

In the era of regional autonomy, the local government has increasing role in managing local economy growth. The local government has tried to utilize the APBD optimally to finance the development needs and does not allow its fund in less productive placement. MSME development is specifically supported in capital empowerment either though revolving fund program or allocation of credit guaranteed fund like in the provinces of Riau, Gorontalo and Bali.

MSME credit guarantee would ensure the bank to give credit to feasible MSME but does not have bankable guarantee. For the local government itself, this credit guarantee is expected able to encourage MSME investment in order to expand job opportunity, strengthen the social-politic stability and would increase tax revenue for the local government. Credit guarantee also has leverage factor and does not cause market distortion.

The complex business evaluation with the credit guarantee system can be simplified in the form of mere financial

statement and field observation by the bank official. BI has conducted several studies on local credit guarantee institution (LPKD), where major obstacles were found in the legal aspect. Currently, a government regulation about the MSME guarantee system is being discussed especially that related to mechanism of LPKD. The Minister of Finance as the government authority will issue decree on minimum capital and operational business permit for LPKD at district and provincial levels.

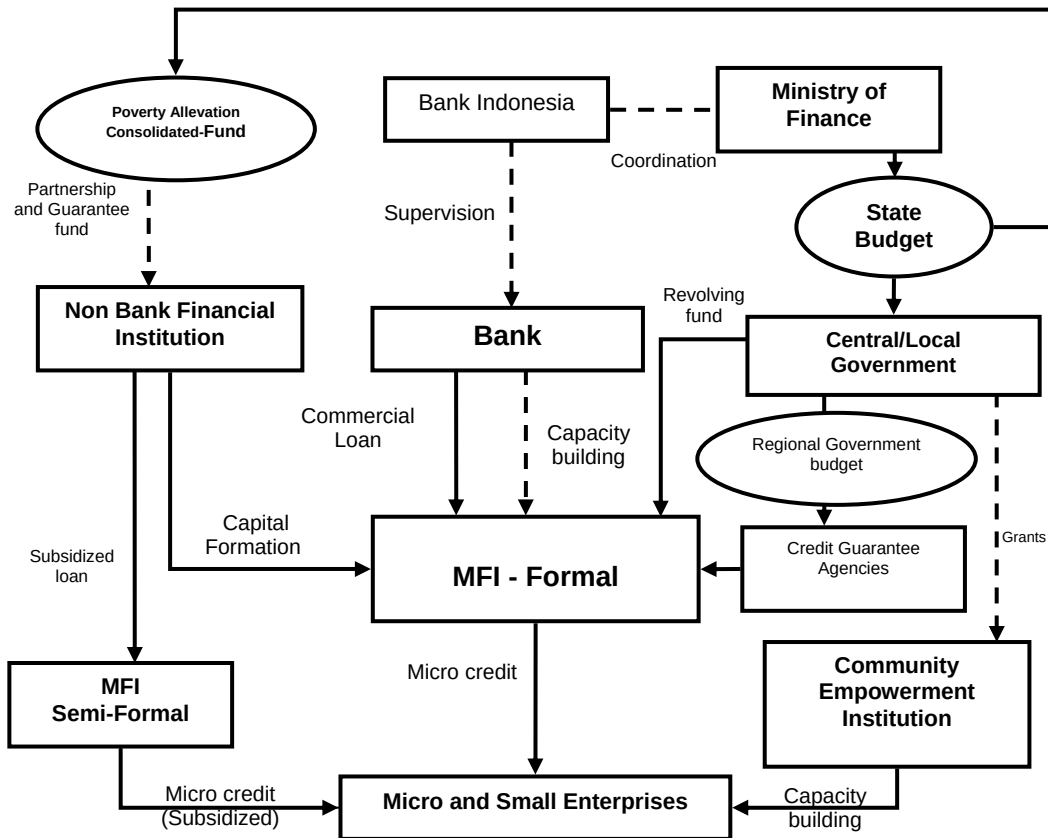


Figure 9.2: MFI – Bank Linkage System (PHBL)

9.4.4 MFI Regulation and Supervision System

Micro enterprise financing is generally from own savings or loan from the money lender with very high interest. Therefore, the government and banking enhance MFI framework which are the rural bank (BPR) and Saving and Loan Cooperatives (KSP) with specific regulation. Effective supervision is reflected from adequacy and accuracy of the existing procedure. The adequacy of regulation implementation is calculated from components of credibility level evaluation, measured by the indicators such as Capital Adequacy Ratio (CAR), Return on Asset (ROA), Return on Equity (ROE), Loan to Deposit Ratio (LDR), Cash Ratio (CR) and Cost and Operational Revenue Ratio (CORR).

Currently, KSP supervision conducted by Local Office of Ministry of Cooperative is considered weak, meaning that the capability of the inspectors is inadequate because they are not trained with dependable procedures. This condition is different from the BPR supervision which is conducted by BI with the ratio of approximately one supervisor to 15 BPRs. The effective supervision is a tool to make early detection of cash flow problems, especially non performing loans.

The MFI which is generally has the activity of simple saving and loan operational only has one type of risk that is credit risk. As long as MFI has good manager and efficient control system, the risk management will work.

9.5 Policy Implication

Formulating the implication of the national economic policy has to be based on appropriate development economics theory so that the relation between the strategy and its implementation is clear. The government should ahead in formulating the policy so that market players are willing to share information to support the negotiation process. The rules for achieving consensus include minimum wage, tax incentives, loan interest subsidy and business credit guarantee scheme.

9.5.1 Proposed MSME Law

Related to regulation aspect for MSME empowerment, the Ministry of Cooperatives and SME has taken initiative in proposing MSME Law as the replacement of the law *No.9/1995 for small enterprises*, so that MSME in Indonesia can obtain business credibility and fairness. The main objective and substantial of the incoming MSME Law are efforts in growing conducive business environment by setting up the policy instruments comprising financial aspect, facility and infrastructure, partnership, business permit, market opportunity, trade promotion and institutional support.

The important thing still in discussion is about the definition and criteria of net assets and annual sales revenue of MSME. Subject about the criteria of number of and business type are not contained in that proposed MSME Law.

Other important thing is the subject of **Partnership** between MSME and large scale enterprise covering technology transfer, product marketing network, business capitalization and upgrading of human resources. In the incoming MSME law, partnership can be conducted through various design mechanisms including plasma-nucleus, sub-contract, franchise, general trading, and specific collaboration scheme like profit sharing, operational collaboration, joint venture and outsourcing. In planning and implementing partnership program, it should be rely on mutual needs and benefit sharing. The unjust partnership practice, which is beneficial only to large scale enterprise can be avoided.

9.5.2 Local Regulation of MSME

Local economic development strategy in conjunction with the regional autonomy policy in general comprises:

- (1) Improvement of investment climate and production framework as well as creating interregional economic relationship which supports each other.
- (2) Better utilization of natural resources in the relatively under-developed regions while creating new economic potential regions.
- (3) Developing sustainable business activity located at production centers in priority regions as reliable economic growth poles.

The government support for MSME gives the priority for investment facility and infrastructure of agribusiness small scale and household industry. The SME financing with partnership and commodity cluster approach can be conducted through local government owned financial institution.

Most of the MSE are economically active poor with low education and weak market connections. Therefore, they require support in social empowerment and business partnership either from the government aid or companies through its Corporate Social Responsibility (CSR). Deregulation and incentive system in the region is essential in creating conducive climate for investment and MSE partnership development.

9.6 Conclusions

Recent effort by central and local government for MSME empowerment and financing is intensively carried out with billions rupiah budget. However, its impact on poverty alleviation and job creation in underdeveloped regions was found unsatisfactory. Specific state-aid program such as subsidize loan interest and revolving fund scheme mostly is not sustain. Hence, there should be policy reformation at all levels to manage governmental support effectively with less distortion of local market mechanism.

This study advice policy maker to encourage MSME law manifestation followed by related policy instrument such as MSE credit guarantee agencies and deregulation of ME registration procedure. Moreover, MSE and MFI capacity building must be increased utilizing various source of fund available such as CSR from state owned and big companies.

Policy research using Soft System Methodology with active participation of stakeholders could produce effective recommendation with holistic view and well appreciated by policy makers. Knowledge acquisition through Focus Group Discussion and Executive Workshop was much efficient to develop policy instruments.

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10. Social responsibility by requisitely holistic tradable permits

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Abstract: To survive, the contemporary world needs new economy with (informal) systems thinking, e.g. by a sustainable model of dynamic management of CO₂ emissions. The existing tradable permits concept does not provide it. Based on systemic thinking (by Mulej's Dialectical Systems Theory) we drafted a world-wide model of CO₂ (hot-bed gases) emissions management. One must limit all emissions on the Planet-Earth level in equilibrium with the carrying capacity of Earth. Neither governments alone nor market forces alone can handle the problem, but they can handle it in inter-disciplinary international creative cooperation, possibly guided by United Nations Organization. Our model offers a requisitely holistic basis for it: it offers a synergy of tradable emission permits and international agreement on emission cap. Then, more social responsibility may be attainable and lead to more success in sustainable future management.

Key words: CO₂ emissions, Dialectical Systems Theory, dynamic management, emissions cap, requisite holism, social responsibility, sustainable future, tradable emission permits

10.1 Introduction

Environmental problems are mental rather than natural problems. Sustainability is a matter of ability rather than nature. The Planet Earth will survive, like it has for billions of years, but: will humankind with its current civilization survive, if humans do not practice more/requisite holism of monitoring, perception, thinking, spiritual and emotional life, decision making, and action? The humans' one-sided approach to running our lives of so far has put our survival in danger. Data from climate research are clear: CO₂ emissions are no local, but world-wide global problem. Partial solutions, such as trading of CO₂ emissions concerning traffic or the area of European Union only, are not requisitely holistic and can therefore solve the problem fictitiously. Social responsibility is needed to solve society-wide problems (e.g. Mulej et al 2007). A holistic model and practice would be the best solution, but holism reaches beyond human natural capabilities. The realistic best solution is provided by requisite holism (Mulej, Kajzer 1998), with which a dialectical system, i.e. a synergetic network of all essential professions/viewpoints and only them (Mulej, 1974, and later, incl. Mulej et al, forthcoming) is applied: Table 10.1.

←-----→		
Fictitious holism/realism (inside a single viewpoint)	Requisite holism/realism (a dialectical system of all essential viewpoints)	Total = real holism/realism (a system of totally all viewpoints)
Dangerous due to causing oversights along with partial insights based on specialization	Attainable, but depending on human choice of the essential viewpoints/professions, not all possible ones, and their synergies	Ideal, but impossible to attain due to huge complexity of reality reaching beyond human capability

Table 10.1: The selected level of holism and realism of consideration of the selected topic between the fictitious, requisite, and total holism and realism

10.2 The Requisite Holism, New Economy, Social Responsibility, and Sustainability

If the current problems and complexity have resulted from one-sidedness, the way out cannot be attained by specialists working in separation from each other, but rather as an innovation that is matching the European Union's definition of systemic thinking (EU 2000, p. 6):

'The Action Plan was firmly based on the 'systemic' view, in which innovation is seen as arising from complex interactions between many individuals, organizations and environmental factors, rather than as a linear trajectory from new knowledge to new product. Support for this view has deepened in recent years.'

This is what the new economy must be based on for humankind to survive, including the aspect of the natural preconditions for our survival called sustainable future or environmental care etc.

A discussion about the 'new economy' (Ing et al 2008) brought several insights that can be summarized as follows: the new economy faces property revolution (because ownership of knowledge and creativity differs from knowledge of tangible properties), information revolution (due to information/communication technology, etc.), serious new problems (due to piling up rather than covering cost of care for natural precondition of humankind's survival beyond the cost of

both world wars combined or even much more), the need for much more transparency and participatory democracy in all organizations from families via enterprises, countries, to international associations (for RH in monitoring, perception, thinking, emotional and spiritual life, decision making, and action), and SR (for less of the detrimental abuse/misuse of Adam Smith's concepts of self-interest and invisible hand, of the law of external economics, the law of supply and demand, and trust). On the basis of economics and economy of so far, namely, according to official data, 20% of humankind – the so called West and Japan and Pacific Rim Tigers – enjoy results of the end of monopolies of 1870s much more than the other 80%. They are much richer because they innovate much more, but they are not holistic enough to avoid the danger of blind alley: what comes after innovation phase? Their current crisis seems to require innovation of the concept of innovation of so far to include RH. (See also several contributions in ISSS 2008; Mulej et al, editors 2008; etc.). SR may support RH better.

SR is no longer limited to charity and 'doing good in order to do well' to your co-workers, customers and other partners in business and social life, and to your natural environment, because 'this is nice'; it has become a part of the unavoidable good business (Crowther, Caliyurt, editors 2004; Hrast et al, editors 2006, 2007, 2008; Prosenak, Mulej 2008; Prosenak, Mulej, Snoj 2008; S.R.W. RecordPedia 2004; Waddock, Bolwell 2007). Thus, SR is becoming both a way of informal systems thinking, because all crucial viewpoints are involved, and they are so in synergy and need working on an interdisciplinary basis; and a invention-innovation-diffusion process.

On these terms, we will briefly present and comment Božičnik's sustainable model of dynamic management of CO₂ emissions (2007). No measure can be requisitely holistic if tackling either any single part of the world alone or any part of economy or life alone, such as a single country or traffic, energy production, industrial or agricultural manufacturing or households, for success. One must limit all emissions on the Planet-Earth level in equilibrium with the carrying capacity of Earth. Neither governments alone nor market forces alone can handle the problem, but they can handle it in inter-disciplinary international creative cooperation, possibly guided by United Nations Organization. Our model offers an informal requisitely holistic basis for it: it offers a synergy of tradable emission permits and international agreement on emission cap. Why is this becoming urgent, not only necessary? It is a crucial part of a bigger crucial story.

10.3 Tradable permits – a brief definition

Tradable permits and a cap over them might be a solution of an informal systemic type with no big words of systems theory/cybernetics of any of its many kinds (see for them: François, 2004).

In its most general use, a tradable permit can be defined as a right transferable to a common pool resource. In environmental applications, the common pool resource is air or water that does not contain concentrations of substances that harm human health or degrade air or water quality in any manner. A narrower and more specific definition for environmental applications then reads: a transferable right to emit a substance that can create pollution. Implicit in this definition, and in the concept of tradable permits, is the notion that some level of emissions does not create pollution, just as some level of fishing does not constitute over-fishing. The permits that implement command-and-control regulations are called conventional environmental permits; they are a type of operating permits that specify conditions concerning discharges that must be met for a particular facility to operate, or for a vehicle to be sold and operated. These permits typically cover a variety of emissions and they may set standards for each, perhaps limiting emissions to some relatively low rate per unit of input or output, or prescribing certain technologies or practices, which will have the same effect. They are attached to the facility or vehicle; they aim at controlling substances that can contribute to pollution; and they implicitly grant rights to emit the substance so long as permit conditions are met. Tradable permits differ from these conventional permits chiefly in focusing on a single discharge and being transferable. Transferability implies that the potentially polluting discharge can be identified and separated, or unbundled, from the underlying environmental permit. Thus, transferability imposes specific requirements on tradable permit systems that are not necessarily required for conventional environmental regulation (Ellerman 2005, 123-131).

Basically there are three distinct forms of tradable permits systems (Ellerman 2005, 125):

- 1 Cap and trade;
- 2 Credit trading;
- 3 Averaging

10.4 Cap and trade system (CTS) – a brief summary of the concept

Under CTS an absolute cap on emissions and the ability to trade emissions under the cap is set (Ellerman 2005, 125-126). With CTS one provides the highest certainty about reaching the reduction set forward (Crals and Vereeck 2003, 10). Each emitter is assigned a quota of emissions and they acquire extra allowances (The royal society 2002, 4). Instead of determining compliance by reference to a common standard and sanctioned or compensated deviations from it, firms are required to surrender a permit for every unit of discharge. Two consequences flow from CTS:

- 1 The regulator's task is not to specify an emissions standard but a cap (this requires initial decisions about an acceptable or optimal quantity of emissions and the limits to trading).
- 2 The rights to discharge are now explicit and must be allocated in some manner instead of being implicit and granted without question to the owners of the emitting facility (Ellerman 2005, 125-126).

A CTS tradable emission permits scheme involves:

- 1 A decision about the total quantity of emissions that is to be allowed. The total amount of permits issued should be equal to that target level of emissions.
- 2 A rule which states that no firm is allowed to emit pollution beyond the quantity of emission permits it possesses.
- 3 A method whereby actual emissions are monitored and penalties are applied to sources, which emit in excess of the quantity of permits they hold.
- 4 A choice by the control authority over how the total quantity of emission permits is to be initially allocated between potential polluters.
- 5 A guarantee that emission permits can be freely traded between firms at whichever price is agreed for that trade (Perman, Ma, McGilvary and Common 2003, 223).

A CTS is characterized by the following features:

- 1 *Efficacy*: the cap is a physical limit on emissions determined by the environmental authority which, by definition, guarantees that CTS reaches its goal. The number of permits is limited accordingly; individual sources can only increase their emissions, if they are compensated by pollution reductions elsewhere (Koutstaal and Nentjes, 1995).
- 2 *Flexibility*: the environmental authority can set the legal cap at its discretion. In contrast with environmental regulation, polluters actually have a choice of either complying (by reducing production or installing abatement equipment) or purchasing additional permits.
- 3 *Dynamic efficiency*: there is a clear incentive to reduce emission costs by investing in cleaner technology. Since excess permits can be sold, CTS rewards participants who use cleaner technologies.
- 4 *Static efficiency*: tradability assures that the emission rights will end up where they yield their highest value. In other words, trade will result in an efficient allocation of permits equalizing marginal abatement costs of polluters; this depends on the relative ease of transferability of rights and low transaction costs (Noll, 1981; Crals and Vereck 2005, 202-203).

10.5 Problem: Concentration of CO₂, related temperature changes and needed measures

Available data on CO₂ emissions warn us that the conditions are extremely serious. Around 1750 the global concentration of CO₂ was 278 ppm (i.e. parts per million), today it is around 380 ppm or 430 ppm CO₂e and it grows yearly for about 2,3 ppm. In order to keep the current conditions of life, the global yearly emission of CO₂e must fall for 20 % compared to current emission (Stern 2006), immediately.

Scientists are warning (e.g. Meinhausen 2006) that the average global temperature of earth surface has been growing in the recent century and reached in 2002 $0,8 \pm 0,2^{\circ}\text{C}$ more than in the pre-industrial period. In the recent 30 years the temperature has been constantly growing for about $0,2^{\circ}\text{C}$ per decade.

According to Stern review report (Stern 2006) the risk of the biggest climate changes could be diminished to an acceptable level, if the concentration of CO₂e in the atmosphere could become stable at the level of 450-550 ppm. Attainment of a level lower than 450 ppm is assessed to be too demanding and too expensive. Stabilization at the level higher than 550 ppm is dangerous because the temperature could rise for more than 2°C over the pre-industrial level. Though, the level of CO₂e concentration at 550 ppm, which is a double level compared to pre-industrial times might be reached in the next 10-20 years. In order to keep this level, from then on the CO₂ emission ought to be made lower for 1-2% a year, at least. Thus, the global emission would reach, in 2050, about 75% of the current level. This level of emissions would make temperature grow for about 3°C , which is still very dangerous: the climate change could put the current civilization's existence under a big question-mark (Ećimović et al, 2002, 2007; Ećimović, editor, 2008).

On the other hand, stabilization of CO₂ concentration at the level of 450 ppm CO₂e would cause the air temperature to not grow higher than 2°C over the pre-industrial level; thus, the desired and acceptable concentration would be reached in ten years from now, but then the CO₂ emissions would have to be diminished for 5% or more a year. The Stern report that was commissioned by the British government states also, that even the stabilization of concentration at the 450 ppm CO₂e does not assure remaining under the targeted growth of temperature for 2°C over the pre-industrial level. Different temperature raises would result from different levels of stabilization of CO₂e concentration. The important economic aspect of the briefed dangerous future says that the cost of the threatening floods, winds, etc. might be higher than the cost of diminishing the CO₂ emissions (Stern 2006). The assessment how high might be the cost of attainment the stabilization on the level between 500-550 ppm of CO₂e lies around 1 (one) percent of the global GDP provided the action starts immediately.

In addition, the postponed rather than covered cost of maintenance of the natural preconditions for humankind to survive may reach beyond 5,500 billion Euros, which is more than the cost of both world wars combined; it may diminish the world-wide GDP even for as much as 20 (twenty) percent, if action is not undertaken immediately, but postponed for some 20 years (Stern, 2007).

What should be done? Our suggested draft model has now its turn in this contribution.

10.6 From criticism to suggestion: SR by a new model for a global management of the CO₂ emissions by tradable permits under a cap

Data about the CO₂ emissions, average temperatures, etc., covering the recent millennium and century are confirming

findings by Brown (2006), that the carrying and self-regulation capacities of the Planet Earth has gone lost in 1980s. Therefore a dialectical system of measures is necessary for this capacity of the Planet Earth to be restored – and thus for humankind to survive.

The key cause for the climate changes to show up over the industrialization period lies in the hot-bed gases emissions. The latter include the CO₂ with a share of more than 80%. Therefore the approach aimed at attainment of the requisite holism focuses best on the global level of hot-bed gases emission. The model must attain capability to support the sustainable future (Ećimović et al, 2007; Goerner et al, 2008; Foley, 2008) and must introduce a dialectical system of instruments, rather than single ones, promising to make the above objectives of strategic reduction of CO₂ emissions attainable in reality.

As we have briefed above, the only known market instrument that can make humankind able to attain the said goals is the tradable permits system; we suggest its application. The following suppositions must be matched for it to work (Božičnik, 2007):

- 1 All countries of the world accept the Kyoto Agreement;
- 2 Management of CO₂ emissions, both on global and national levels, introduces tradable permit based on the concept of 'Cap and Trade' (e.g. the European scheme of trading the industrial CO₂ emissions is applied globally);
- 3 The 'Cap and Trade' concept covers all generators of CO₂ emissions, which means all industries, including agriculture, energy production, households, and traffic;
- 4 United Nations Organizations (UNO) establishes an independent professional body to manage CO₂ emissions globally;
- 5 Cap of the permitted emissions and long-term dynamics of problem-solving is decided by an interdependent world-level professional institution, such as IPCC;
- 6 Ways of national distribution of tradable permits to individual emissions generators (free, grandfathering, auctions) is up to individual country government;
- 7 Success of the tradable permits system depends, first of all, on the precondition that the entire quantity of hot-bed gases emission is limited (and consequently under control) in line with the predetermined restriction quotas both on the national and global levels;
- 8 The tradable permits are based on a unit of carbon: the basic unit is one kilo of CO₂; this is equal to one unit of carbon (UC). The following relations are set: one liter of gasoline is equal to 2,3 UC, one liter of diesel is 2,4 UC, one kilo of coal is 2,9 UC, etc. (Fleming 2006, 10);
- 9 Following the practice of the world-wide exchanges of colored metals, oil, etc., both national and global markets (exchanges) of tradable permits are introduced. In these markets owners of tradable permits do business freely inside the limits of their available quotas.

On this basis we suggest the following global model of CO₂ emissions management using the tradable permits inside the cap agreed upon professionally and politically, in a best-case scenario inside UNO:

- 1 An independent body authorized by UNO defines parameters to decide and monitor objectives and processes of reduction of the global temperature; then:
- 2 On this basis the maximal possible yearly global CO₂ emissions are decided; this is the upper limit to assure and/or re-establish equilibrium in global climate change processes, which is called 'cap'; this is the upper limit enabling the sustainable development and sustainable future; as we said above, the current estimation says that it is urgent to diminish CO₂ emissions for 20 (twenty) percent (Stern 2006).
- 3 The entire available quantity of the globally permitted CO₂ emissions should be distributed to single countries; this issue belongs to the hottest ones both in practice and theory (e.g. Stevens and Rose 2002; Welt im Wandel 1996; Parkin 2000).
- 4 Countries exchange their surpluses and lacks of the permitted national quotas of CO₂ emissions in an exchange-like world-wide market for trading the national tradable permits for CO₂ emissions.
- 5 The authorized UNO body decides also the way of control and double-checking as well as sanctions against the discovered law-breakers.
- 6 Inside the permitted cap of CO₂ emissions per countries, every country is authorized to consider its own conditions and interests to choose its own best way of tradable permits distribution and trading. Potential methods include grandfathering, auction, free distribution, etc. We suggest three sub-systems: traffic, energy production (including households), and manufacturing and other industries (including agriculture etc.). All three sectors trade among their members and between sectors in a national exchange for CO₂ emissions.
- 7 National exchanges for CO₂ emissions are members of the world-wide exchange for CO₂ emissions to sell surpluses and cover minuses by buying additional trade permits for CO₂ emissions.
- 8 The upper limit – cap – never reaches beyond the Planet Earth's carrying capacity.

See Figures 10.1 and 10.2 for illustration of our model (Božičnik, 2007).

10.7 Conclusions

The Planet Earth lost its carrying capacity some 30 years ago, due to many decades of one-sided rather than requisitely

holistic decisions and actions.

Humankind, including every single individual, faces a very new task: to acknowledge interdependence of all humans, their interdependence with their natural environment as their precondition of survival, and to apply ethics of interdependence to save its own civilization from catastrophic consequences of its one-sided rather than requisitely holistic behavior of so far, especially in the period of industrialization.

The alternative is extermination, nothing less. It is very expensive to proclaim short-term and narrow-minded goals more important than the broader-minded and longer-term ones, in terms of consequences. A loss of 20% of the entire world-wide GDP is pending, and so is survival/end of the humankind.

Informal systemic thinking, considering the left column in Table 10.2 is becoming increasingly unavoidable for survival.

No	Systems / Systemic / Holistic Thinking	Un-systemic / Traditional Thinking
1	Interdependences, Relations, Openness, Interconnectedness, Dialectical System	Independence, Dependence, Closeness, A single viewpoint/system
2	Complexity (& Complicatedness)	Simplicity, or Complicatedness alone
3	Attractors	No influential force/s, but isolation
4	Emergence	No process of making new attributes
5	Synergy, System, Synthesis	No new attributes resulting from relations
6	Whole, Holism, Big Picture, Holon	Parts and partial attributes only
7	Networking, Interaction, Interplay	No mutual influences

Table 10.2: The Seven Interdependent Basic Sets of Terms of Systems / Systemic / Holistic vs. Un-systemic Thinking (as a dialectical system)

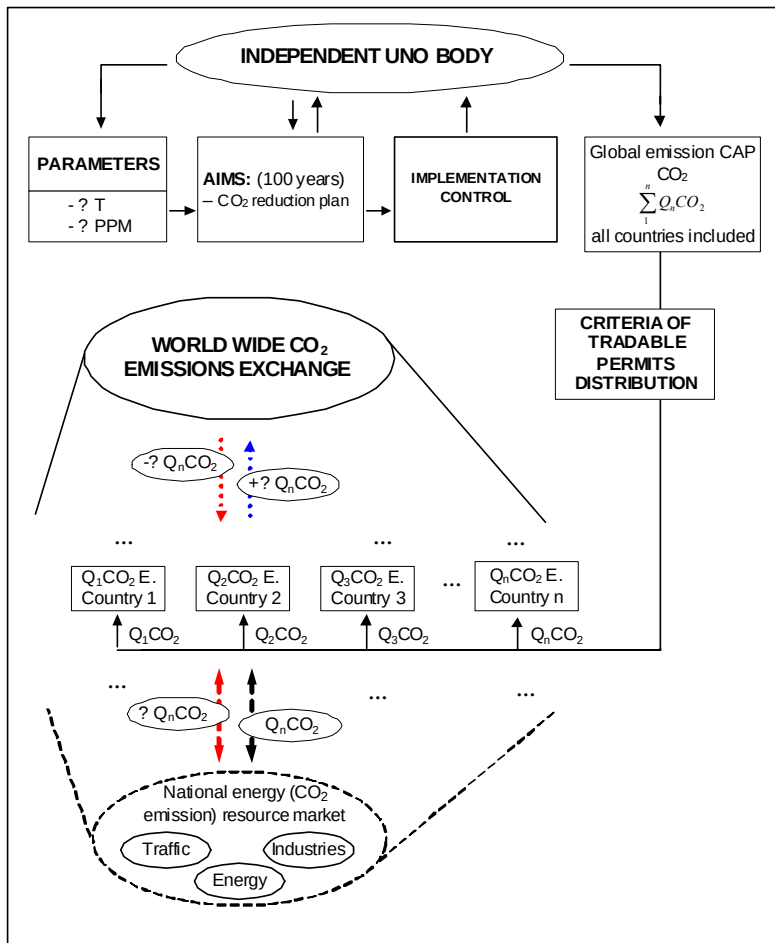
A misunderstood freedom with no SR (reference above) has proven disastrous. Requisitely holistic monitoring, perception, thinking, emotional and spiritual life, decision making, and action is the alternative, which can be supported by (informal) systemic thinking. The suggested model is aimed at supporting informal systemic thinking in order to help humankind survive.

Of course, compared to the practice of so far, a lot of individual and organizational learning and transformation is pending for the model to become reality. Therefore, the model should be considered an invention – suggestion, or even potential innovation in need of implementation as an innovation and of diffusion, as a process which we have addressed many times and have no room for it here.

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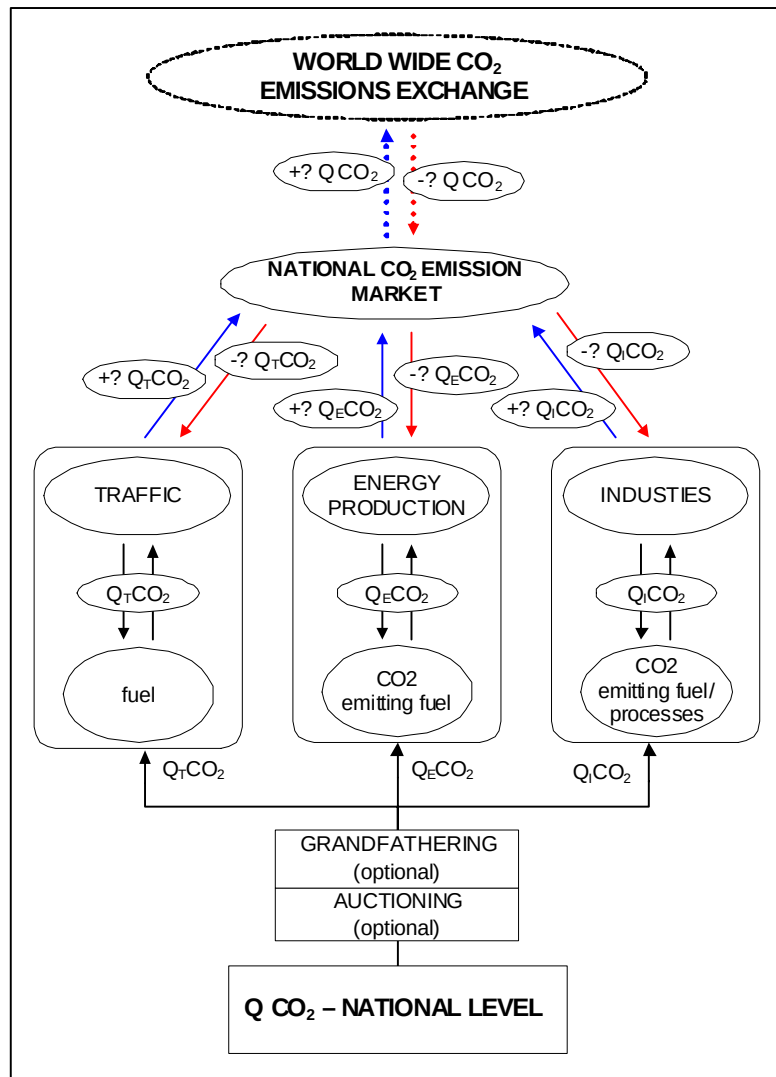
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Legend:

- Q_nCO_2 – Total quantity of permitted emissions per country n (total quantity of tradable permits)
-→ Sale of the surplus of tradable permits ($+\Delta Q_nCO_2$) on the world-wide exchange of CO_2 emissions,
-→ Buying the missing tradable permits ($-\Delta Q_nCO_2$) on the world-wide exchange of CO_2 emissions,
- - -> Buying or selling of energy sources inside the available tradable permits (Q_nCO_2),
- - -> Buying or selling of energy sources inside the new tradable permits after buying the latter on the world-wide exchange of CO_2 emissions (ΔQ_nCO_2).

Figure 10.1: Suggested model for trading of tradable permits for CO_2 emissions world-wide



Legend:

- Buying the missing quantities of tradable permits ($-\Delta Q_n CO_2$) on the national CO₂ emission market
- Sale of the surplus of the tradable permits ($+\Delta Q_n CO_2$) on the national CO₂ emission market
- ⋯→ Buying the missing quantities of tradable permits ($-\Delta Q_n CO_2$) on the world wide CO₂ emission market
- ⋯→ Sale of the surplus of the tradable permits ($+\Delta Q_n CO_2$) on the world wide CO₂ emission market

Figure 10.2: Suggested model for trading of tradable permits for CO₂ emissions inside countries

11. Systems approach to developing sustainable quality tourism in Delta state, Nigeria

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Abstract:

Though endowed with highly diverse environmental resources, Nigeria has experienced low tourist flows and economic gains, causing concern to government and tourism business operators. Past tourism studies imbued with this concern are fragmented, focusing on specific components of tourism. Tourism travels were explained in past studies in terms of unidirectional models as push and pull factors which view tourism as a one way process, a start and finish relationship between tourists generating and destination regions. Despite current realization that an underlying concept in planning tourism is that tourism should be viewed as an interrelated system of supply and demand factors, tourism studies employing systems thinking, concepts and methods are yet to evolve at the national, state or local levels in Nigeria. Urged by need to apply systems thinking to tourism studies aimed at attaining sustainable quality tourism in Nigeria, this contribution examines the structure and inter-relatedness of the demand and supply elements of the tourism environment in Delta State, Nigeria. The contribution employs the framework of system thinking and concepts proposed by Leiper and the World Tourism Organization to adopt a comprehensive view of tourism in Delta State, Nigeria. The contribution examines factors in origin environment subsystem that stimulated tourist travel decisions and factors in destination environment subsystem that influences tourist/visitor destination selection. The subsystems of routes, alternative destinations, and modes of travel between origin and destination, and control subsystems such as tour operation and travel agents were examined. Adjustment mechanisms involving tourist's activities, experiences, contacts with new environments, and possible feedback information (positive and negative) that enhances or discourages travel propensity /motivation were examined and recommendations arising from the study were made. The contribution concludes with strategies/suggestions indicating ways that the systems approach to sustainable quality tourism development in Delta State specifically related to the Nigerian situation, and tourism planning, management and development generally.

Key words: Nigeria, sustainable quality, systems thinking, tourism

11.1 Introduction

Though Nigeria is endowed with highly diverse cultural and natural environmental resources, tourist flows and economic gains have been low, causing concern to government and tourism business operators. Majority of past tourism studies (Chokor, 1993; Awaritefe, 1993; Afolabi, 1993) imbued with this concern have been fragmentary, focusing on specific components of tourism or tourism sites. Tourism travels were in more recent studies (Awaritefe, 2004; Ideh, 2005) also explained in terms of only unidirectional models as "push" and "pull" factors, which viewed tourism as a one-way process, a start and finish relationship between tourists generating and destination regions. Majority of previous tourism studies in Nigeria frequently examined issues of only supply or demand, but rarely both. Despite current realization that an underlying concept in planning tourism is that tourism should be viewed as an interrelated system of supply and demand factors, tourism studies employing systems thinking, concepts and methods are yet to evolve and gain support at the national, state or local levels in Nigeria.

11.2 Integrated Systems Approach to Developing Sustainable Tourism

There is presently a global shift from formal/institutionalized tourism, characterized by mass tour and guided visit in specific places, to alternative small scale tourism forms, that emphasize individual search for self-fulfillment and unique experiences in diverse environments within a region. A holistic rather than reductionism framework of tourism planning is therefore desirable in order to fulfill the diverse travel needs and expectations of contemporary tourist, while simultaneously ensuring sustainability of environmental resources in destination regions.

The past approach to tourism development by government and the private sector in Nigeria have concentrated on specific sites and target areas such as hotels, parks, beaches, museums and historic sites considered attractive for leisure visits, recreation or excursion. A major flaw with this approach is the failure to recognize the interrelated and holistic nature of environments, places, people and tourism (Chokor, 1993; World Tourism Organization, WTO, 2003). Tourism involves several complicated activities that overlap many different sectors of the environment, economy and society. Thus, a more holistic and interrelated planning approach to tourism resource and destinations is desirable as a basis for tourism policy and development strategy, as it incorporates both current and historic appraisals of all features

of the environment in a region.

A key concept underlying current tourism planning approach is that tourism should be viewed as an inter-related system of demand and supply subsystems. According to Leiper (1999) and WTO (1994; 1999; 2003), the tourism demand subsystem is made up of foreign and domestic tourists and local residents; these use local attractions, infrastructures, accommodation, services/activities, which constitute the supply subsystem or tourism product. Certain institutional structures, such as government tourism offices, hotel/catering association, legislature and regulation are also vital tourism products or supply subsystems that are required for tourism to function optimally, much more effectively, and bring desired benefits. It is important that planning for tourism should aim at integrated and holistic development of all the supply and demand subsystems to achieve sustainable tourism development. Tourism development also requires planning for integration of tourism into overall national or regional or state development systems such as policies and plans, so as to resolve potential conflicts over locations for various developments and ensure harmony in multiple resource use by tourists and local communities. The strategy of integrated systems approach is currently widely advocated in tourism planning as it better assures that all the subsystems of the tourism system such as the natural, cultural, and other resources are conserved for continuous future use, while still beneficial to present society (Lea, 1998; Gunn, 2002). Most quality improvement or development of the tourism system impact largely on subsystems of attractions and activities that is associated with the subsystems of natural environment, cultural features, historic and heritage arte-facts. Conversely, the degradation or destruction of these resource subsystems will certainly reduce tourist's patronage, hinder tourism, lower environmental quality and create local, social and cultural problems. The integrated systems approach is acutely important in planning for quality tourism as it presents the basic technique in achieving sustainable tourism development (Ashworth, 2001; WTO, 1994, 2003). The approach demands that all subsystems of tourism, especially those involving tourism supply and demand, be carefully surveyed, analyzed and synthesized or considered in determining the most appropriate type and location of tourism development (WTO, 1994). It is in the context of this planning approach that the subsystems of the tourism environment in Delta State, Nigeria – tourism products, tourist's market, tourism policy and institutional frameworks – are detailed examined next.

11.3 Background of the Study Area

The study area, Delta State, is one of the thirty-six States in Nigeria. It is located in South of Southern Nigeria, between latitudes $5^{\circ}0'$ and $6^{\circ}30'$ and longitudes $5^{\circ}0'$ and $6^{\circ}45'$, within the Niger Delta plains and estuaries. Delta State has a moderate tropical climate. With all year sunshine, two seasons, a dry and a rain season dominate the climate of the area. The State contains more than 8 million people of diverse ethnic groups majority of who live in several densely settled urban areas and some rural and agricultural/fishing communities (Federal Government of Nigeria, 2006). The diversified cultures, languages, traditional occupations, customs and historic background of these ethnic groups are of high tourism interest. The two major cities are the Capital of Asaba located in the northern part of the State and Warri, a major port, with numerous oil-associated industrial and commercial establishments, located south.

Various surveys of the environmental attractions in Delta State were undertaken between April 2007 and February 2008. Aspects of the preliminary report of these surveys are reported in this contribution. The variables selected to measure components of environmental quality are similar to those employed in previously published studies by Hamill (1974), Chokor (1990) and Awaritefe (1992, 2000, 2005, and 2007). Methods and criteria for selection of sites/areas for detailed survey and evaluation are also similar to those presented in these previous studies. Hence, detailed information on the methodological aspects of destination environment evaluation are omitted due to need for brevity and lack of space.

11.4 Survey and Evaluation of Tourist Product

The survey and evaluation of tourist attractions was detailed because of the importance attached to achieving the objective of developing tourism that is based on the inherent environmental and cultural attractions in the area. The survey was based on the three categories of attractions – (a) areas of scenic beauty/unique environmental features (b) areas of social/cultural attributes, and (c) areas of historic/ archaeological monuments.

a. Areas of scenic beauty/unique environmental features

A geographical survey was first undertaken of the physiologic and drainage features of Delta State. This was supplemented with information from a study on the physical structure of Delta State by Odemerho and Ejemeyovwi (2007). This resulted in identification of three broad categories of landform areas:

1) Beaches and Rivers

The beaches consist of unique beach inlands/ridges that run parallel to the coastal shoreline, and inland river beaches associated with the five major inland basin systems. Destination managers and preliminary field survey suggested sites and areas for detailed survey and evaluation, using 28 criteria. The evaluation identified ten first grade beaches and inland rivers, five-second grade ones and three third grade ones.

2) Mangrove/Freshwater Swamp

Three distinctive landform assemblages were identified and evaluated here. Mangrove swamps, fresh water swamps, and low plains. These areas provide the best examples of oxbow lakes in Nigeria. Several streams, isolated marshlands, swamps, creeks and large annual flooded plains are common features. Sites for detailed survey were evaluated using 21 criteria. These yielded scores for grading selected areas as follow:

- i. Mangrove wet land associated with fishing and unique wildlife – three primary attractions and two secondary.
- ii. Fresh water oxbow lakes – two primary attractions and one secondary.
- iii. Streams/Swamps – Two primary attractions and two secondary.
- iv. Isolated Marshland – Two primary attractions and one secondary.
- v. Flooded plans – Three primary attractions and one secondary.

3) Areas of undulating high plan and dissected Upland Areas

The high plan and upland areas identified and evaluated fall into three categories:

- i. High Plains.
- ii. Isolated ridges.
- iii. Disserted uplands.

This upland area is the most important hydrographic center in Delta State. The major river systems as Oroghodo, R. Oneutor and R. Anwai, and R. Ase have their origin in the upland area. Several sites were selected for survey and evaluation using 25 criteria. Here, three high plains were identified as primary attractions and two others as secondary; two isolated ridges as primary attractions and one as secondary; one dissected upland area as primary attraction and two as secondary. Two river sources were evaluated as primary attractions, and one as secondary.

The natural flora and fauna in Delta State was surveyed and evaluated using 21 criteria to identify major environmental attractions that constitute the basis of tourism activities and excursions, but under controlled conditions to protect flora and fauna. The survey and evaluation revealed a great diversity of species of flora, with mangrove and fresh water swamp forest, tropical lowland rainforest and discontinuous grassland as the main vegetation types. The dominant coastal areas where they are found were surveyed and categorized into three primary tourist attractions and two secondary tourist attractions. The varieties of fresh water swamp forest trees were surveyed and categorized into two primary and three secondary attractions. The variety of forest trees and the continuous patches of treeless grassland vegetation that occur in the plains of Urhobo, Isoko and Kwale were also surveyed, categorized and evaluated into five primary and three secondary attractions.

Diversity of insects, reptiles, snails, crocodiles, turtles, snakes and mammals including varieties of monkeys, chimpanzees, baboons, antelopes, rodents and bird life inhabit the area. The coastal and inland waters support varieties of fishing opportunity for tourism. For these and other areas where forest and wild life conservation is practiced, as in some forest reserves, community sacred forest and water areas, a separate survey and evaluation of species and their habitat was undertaken using 23 criteria. The criteria used for evaluation were synthesized and converted into phases of stop over time by tourist to experience attractions. This resulted to the following attraction time grouping:

- * Grade A: 4 Primary attraction areas suitable for a visit of 1 hour or more.
- * Grade B: 7 Secondary attraction areas, suitable for a visit of less than 1 hour.
- * Grade C: 3 less important attraction areas, but with potential appeal.

b. Areas of Cultural/Social Attractions

Previous studies (Awaritefe, 2006, 2005; Abotutu, 2006) suggest that the cultural roots of Deltans lie in their indigenous tribal life, tradition, social and religious life; which are amply reflected in its historic settlements, towns, and villages. Settlements considered important for experiencing the culture and life styles of Deltans were broadly classified into three groups:

- (i) Ancient or pre-colonial settlements.
- (ii) Colonial settlements.
- (iii) Recent or Post-colonial settlements.

An inventory of settlements was undertaken and their survey and evaluation was subsequently carried out, using 35 criteria, assigned one to five points-grade. The settlements were subsequently categorized into six groupings of cultural importance as follows: first order attraction settlements (5), second order attraction settlements (7), other interesting settlements (4), settlements in ruinous condition (2), and lastly, settlement with exceptional individual or groups of building (2).

c. Areas of Historic/Archaeological Monuments

The third major attraction type examined is historic monuments and arte-facts. The state has a short but interesting history which provides some of its tourists' attractions, with the following as dominant incidents: local tribal rivalry, slave trade, early European trade and missionary work and British Colonial Occupation. Sites manifesting any of these features were listed by areas. Additionally, other historic buildings and complexes of buildings were identified and

listed, including historic palaces, churches, schools, bridges, industrial, and commercial places. Both areas of historic attractions were surveyed and classified into three grades:

Grade A – 5 major historic sites suitable for a visit of greater than 1 hour.

Grade B – 7 major historic sites for a visit of less than 1 hour.

Grade C – 3 less important historic sites, but with potential appeal.

The survey and evaluation of tourist attractions were incorporated as important input in the formulation of the suggested types of tourism development, policy strategies and structure plan of tourism development for Delta State, Nigeria (See Figure 11.1). Additionally, under the policy formulation section, recommendations were made on the significance of conserving the cultural fabric and protection of environmental quality and features.

11.5 Subsystems of travel routes/modes and other tourism infrastructures/facilities and services

Routes linking Delta State to various parts of Nigeria include air transport at Osabi, and Seaports at Warri, Sapele, Koko and Burutu. Various areas in the State are connected by network of road and waterways to other areas in Nigeria. Water boats and canoes are used on the extensive river system and creeks. The transport system is still poorly developed in several tourism parts of the state, making some areas with valuable tourism resources still inaccessible.

Foreign Tourists arrive at destinations mostly in groups, traveling in buses, trucks and cars. Foreign tourists stayed longer in destinations than domestic Nigerian tourists. Domestic tourism is more of day trips, with spouse using cars. Overnight stay is small in volume, due mainly to low incomes and high cost. A few tour operators and travel agents are established in the State due to low business. Some high-grade hotels exist in major towns and few rural areas with unique tourism resources. Although tourism infrastructure is well developed in the major towns of Asaba and Warri, it is yet to be improved in many remote areas with valuable tourism resources. Medical facilities, information/education, shopping, recreation and other services for tourists are yet to be improved or provided in remote tourism areas.

11.6 Tourism Control Subsystem: Institutional Elements and Policies

The Ministry of Trade and Tourism, in conjunction with National Tourism Development Cooperation, are government organs for control or regulation of tourism development in Nigeria. Each of the 36 States of Nigeria is expected to have a State Ministry of Tourism, and a Tourism Board to regulate tourism development at the State level. Tourism development in Delta State is expected to follow laid-down lines in the National Tourism Policy (Federal Government of Nigeria, 1990).

Specifically in Delta State, the Ministry of Information, Culture and Tourism, and the Delta State Tourism Board are responsible for the regulation, marketing, and other operational activities of tourism. Private sector activities involve mostly commercial operations. The main aim of tourism policy is employment and income generation, and improvement of well being of citizens. The focus of tourism development strategy is to mobilize and encourage private sector participation in tourism development, while creating the enabling environment for private sector initiative. Each of the 21 Local Government Areas (LGAs) in Delta State is expected to set up a Tourism Committee to oversee tourism matters in their areas. However, only a few LGAs presently have functional tourism committees.

11.7 The Tourism Demand Subsystem in Delta State

The demand sub-system consists mostly of foreign and domestic tourists, and locals who demand or make use of tourism products in Delta State.

Data on volume and qualitative aspects of travel behavior of tourists/visitors within Delta State is provided by previous research (Awaritefe, 2004, 2005) and official statistics (Delta State Ministry of Culture & Tourism, 2003). Because the data was obtained from different sources and methodologies, the data collected and many estimates differ significantly in part. Furthermore, certain tourists' activities were not adequately covered by past research and official statistics. Consequently, many figures and their interpretation should be viewed with caution.

11.8 Tourists Travel Pattern

Analysis of tourists travel pattern within Delta State between 2001 and 2004 covered some 5.3 million journeys with overnight stays. This gives an annual average of 1.32 million overnight on vacation trips. In 2005, total visitors stay overnight in Delta State is estimated at 889,000. Based on an average stay of 2.5 nights, this gives about 2.2 million overnights. And with an average daily spending of N20,000 (i.e. about €100 with N200 = €1) per tourists, receipts from tourist is estimated at a low N4.2 billion annually.

11.9 Tourists Demographics

The majority of tourists are domestic, environmental appreciative and educational as well as recreational. Most tourists are also males, unmarried, and are between the ages of 18 – 46 years, with a mean of 32 years.

Majority of tourists earn more than N150,000 monthly, far above the monthly average of N25,000 for a typical Nigerian worker; they possess higher Certificate or Diploma, or first degree, and are of working or middle class, while a few are students. Foreign tourists are mostly Europeans from Britain, France, Italy, Germany, or from America, Canada,

and Asia. Other Africans are few. Majority of domestic Nigerian tourists have medium and larger family sizes than foreign tourists; they traveled with spouses or friends and arrived at destinations with personal vehicles. In contrast, foreign tourists were mostly single or have small families of less than two children and were traveling in large groups with family members.

11.10 Factors in Tourist Origin and Destination Environment Subsystems that Stimulates Travel

Tourism research (Dann, 1996; Pearce, 1993) suggests that while the individuals' initial decision to travel is motivated by deeper socio-psychological needs, final decision to travel to specific destinations is, however, influenced by perceived images of destinations. Factors in tourist origin environment subsystem that stimulated initial tourist travel decisions and in destination environment subsystem that influenced tourist final destination selection were examined, using systems framework of human needs ("Push" to travel) and destination attractiveness ("Pull" to travel) factors.

Generally, human needs or socio-psychological needs, "push" motives, especially the need for culture/nature appreciation and educational pursuits, appeared as dominant motivations for visiting destinations by tourist. Leisure/recreational needs emerged as the next most important. Destination visit was also associated with the needs of friendship and inter-personal relationships.

Another category of factors, "pull" factors, or environmental factors, also emerged highly indicated for choice of destinations. The important environmental features operating in destination environments that tourist indicated as having influenced their final destination selection include quality service and welcoming staff, safety/ security, low cost and affordable accommodation/food and destination comfort/satisfaction. Others are factors such as good location, accessibility and nearness of destination. Additionally, favorable information and recommendation of destination by friends and acquaintances were indicated as catalyst that motivated visit to destinations.

11.11 Tourist Adjustment in Destination Environment

Tourist's adjustment to their destination environment was viewed in the context of tourist/visitor activities, experiences, and contact with their new destination environments.

The largest number of activities/experiences that tourists participated in are leisure/recreational and action/adventure, especially swimming, walking, jogging and hiking, reading and playing ball and tennis. The next highest group of experiences, and activities considered important for destination visit were mostly educational experiences involving the appreciation and study of plants/animals, geo-landforms features and items in historic sites. The most prominent activities in these categories include viewing/study of wild life, appreciation/sight-seeing and study of physical landforms and viewing/study of vegetation or plant. Social activities follow next, with the highest activities involving camping and picnicking and meeting people and making friends. Commercial activities emerged next as most undertaken by tourist. Commercial activities considered important involve buying/collecting of artwork. By choice of such experiences these tourist have demonstrated that their foremost interest and enthusiasm for the environmental features they were presented with in the destinations are mostly associated with water/beaches, hilly terrain, grasslands and forest areas that are provided with recreation/leisure facilities.

The pattern of tourist experiences and activities seems to reflect local environmental conditions that suggest that tourist behavior; experiences, activities and motivation (demand element) are possibly interrelated and associated with the environmental quality in tourism destinations (supply elements). The structure of this interrelationship between the sub-systems elements of demand and supply in the determination of tourist destination selection constitutes the basis for categorizing the unique environmental attractions/areas of the state into the various tourism forms presented in Figure 11.1.

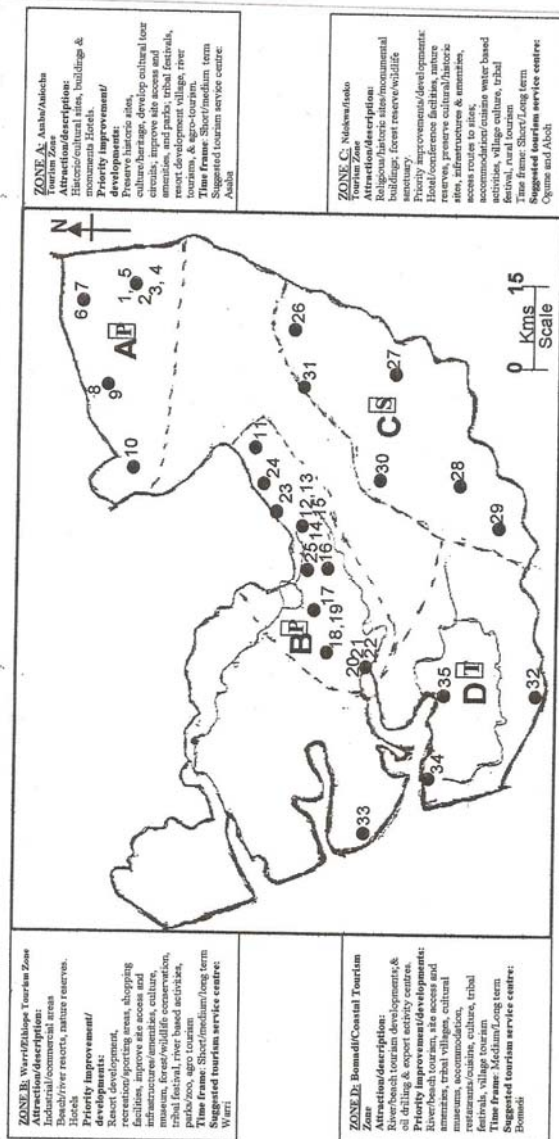
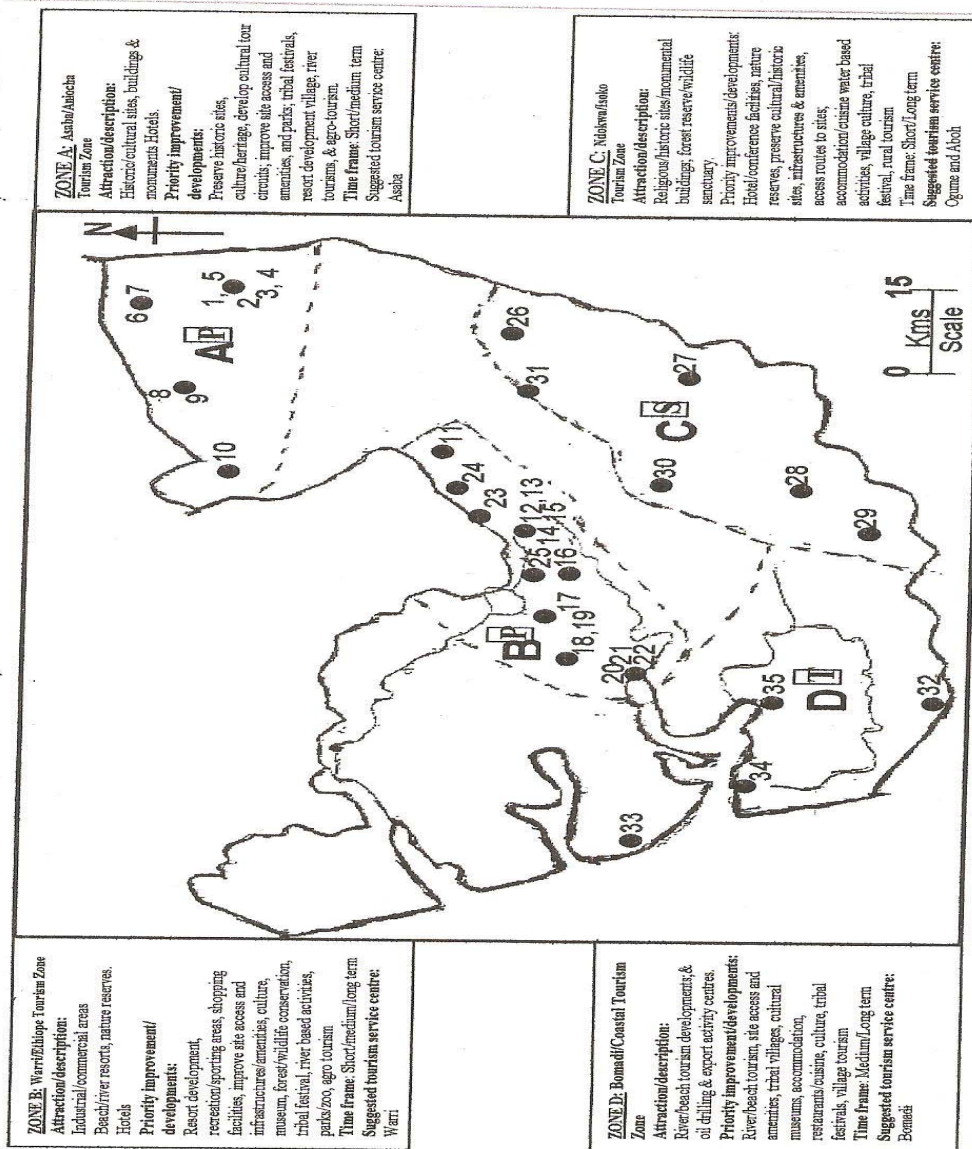


FIG. 1: RECOMMENDED TOURISM ZONES IN DELTA STATE
See key next page



See key next page

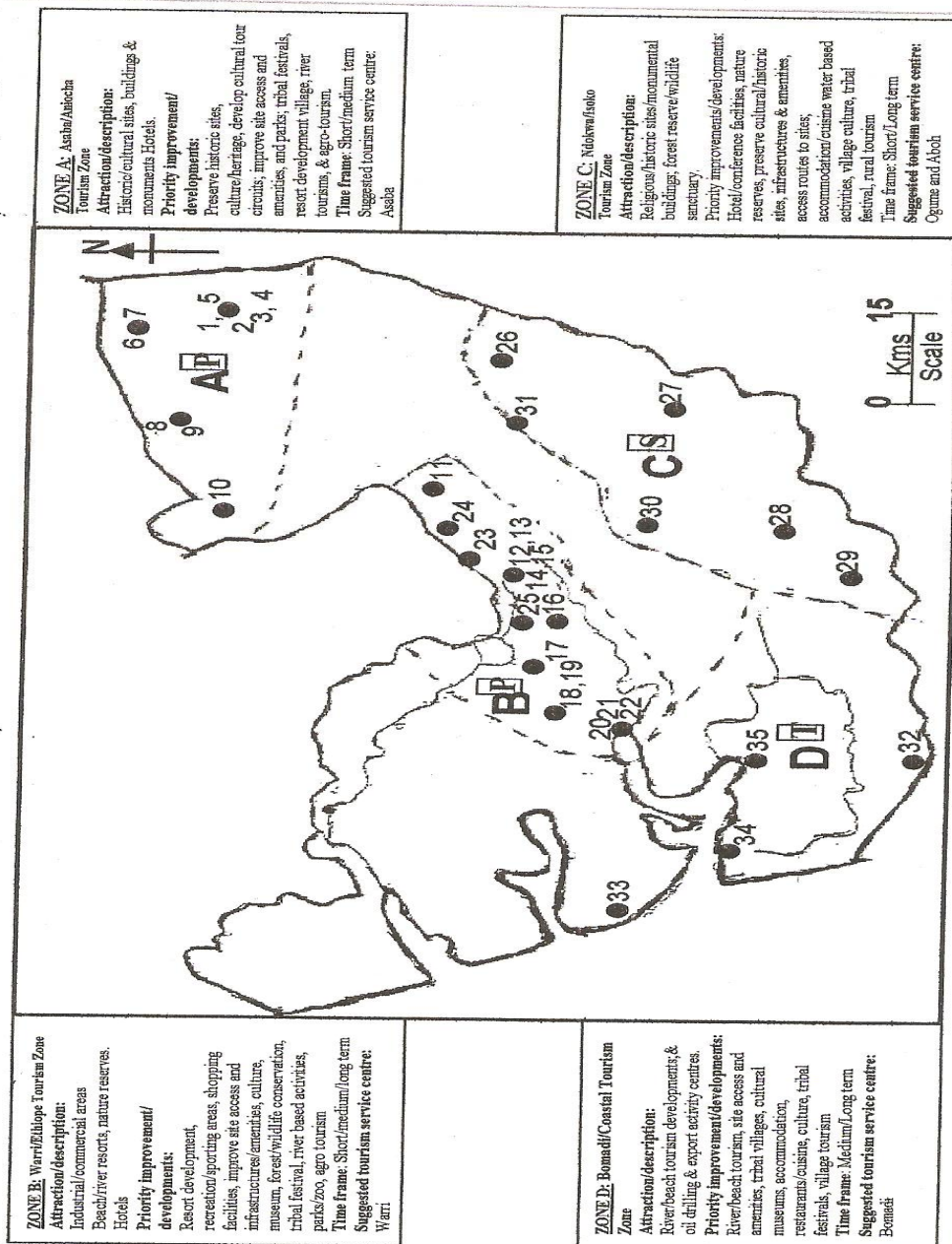


FIG. 1: RECOMMENDED TOURISM ZONES IN DELTA STATE

See key next page

ZONE A: ASABA/ANIOCHA TOURISM ZONE

HCM=1	Mungo Park Building, Asaba Museum
HCM=2	Expatriate Grave yard, Asaba
RB=3	Otu-Ogwu Beach, Asaba
UH=4	Grand Hotel, Asaba
HCM=5	Niger Bridge Asaba
HCM=6	Ozomona-Manor House, Onicha-Olona
R=7	Olona Ranch, Onicha Olona
HCM=8	Nwoko Villa, Idumuje Ugboko
HCM=9	Obi Palace, Idumuje-Ugboko
HI=10	Leads Guest House, Agbor

ZONE C: NDOKWA/ISOKO TOURISM ZONE

FW=26	Ossissa Forest Reserve, Ossissa
HCM=27	Slave trade Relic, Aboh
HCM=28	Bible Site, Araya
RB=29	Eni Lake, Uzere
IR=30	Ibru Centre, Agbarha-Otor
HCM=31	Ogume Village square/shrines

ZONE D: BOMADI/COASTAL TOURISM ZONE

R.B=32	Bomadi Beach
R.B=33	Mangrove Swamp Forest
HCM=34	Forcados Oil Terminal
HCM=35	Akurugbene festival

ZONE B: WARRI/ETHIOPE TOURISM ZONE

R.B=11	Ethiope River Source, Umuaja
R=12	Abraka River Resort, Abraka
R=13	Gordon Hotels, Abraka
R=14	Turf Club, Abraka
R=15	Bembo Games Villages, Abraka
HCM=16	Adana-Okpe, Owerokpe
UH=17	Osubi Airstrip, Osubi
UH=18	De Diplomat, Effurun
UH=19	Casa de pedro, Effurun
UH=20	Pemos Place, Warri
UH=21	Hotel Peggy, Warri
UH=22	Hotel Excel, Warri
UH=23	Amena Hotel/Resort, Oghara
HCM=24	Nana Meseum, Koko
AVR=25	Songhai Farms, Amukpe

KEY

A	B	:	Primary Tourism Zone
C	S	:	Secondary Tourism Zone
D	T	:	Tertiary Tourism Zone

TYPES OF TOURISM

1.	River/beach tourism	R/B
2.	Forest/Wildlife tourism	F/W
3.	Historic/cultural/monuments tourism	H/C/M
4.	Agro/Village/Rural tourism	AVR
5.	Urban Hotel tourism	UH
6.	Resort tourism	R

●	=	Tourism Resource Site
~	=	Rivers/Streams
- - -	=	Boundary of Tourism Zones
—	=	State Boundary

11.12 Feedback Information (Positive and Negative)

Information obtained from tourists on factors that enhance (positive) or discourage (negative) travel propensity/motivation was also considered. The information obtained indicated that the most serious problems that tourist encountered in tourism destinations are associated with infrastructure/amenities (especially transportation, entertainment /leisure facilities), accommodation, catering services, sports/games, health facilities and safety/security. Though the content of environmental features considered deficient by the tourist appeared similar in the destinations, the structure of environmental needs or deficiencies differed between the destinations. Generally, tourist revealed that they value mostly tourism infrastructure/facility rich and safe natural or cultural environments. Tourist viewed with high dissatisfaction environments devoid of provision of human features especially infrastructure/facilities/amenities, accommodation /catering, security/ safety, entertainment and leisure facilities/space, such as sports facilities/events. The need for the provision of these human components in tourism destinations thus emerged as high premium amongst the request by tourist for improvement or modifications in tourism destination environments in Delta State.

11.13 Recommendations for Tourism Development, Planning and Policy Strategy

The survey and evaluation of environmental attractions, tourist/travel needs, motivations, activities and tourism policies presented earlier, provide important inputs in formulating the tourism development plan (See figure 11.1) and policy strategies for tourism development in Delta State discussed next. The suggested tourism development plan and policy strategies are aimed at providing quality opportunities for tourists to experience the cultural and natural environmental features of the State, whilst simultaneously ensuring continuous availability of such environmental resources for future use.

Accordingly, it is suggested that policy strategies for developing tourism in the area should focus on categorising the tourism attractions that are appropriate to each area, as follows:

- (i) *River and Beach Tourism:* This should focus on the numerous rivers and waterways, creeks and lagoons as well as beach areas in the state; and these can also provide good access to various points of tourist interest.
- (ii) *Forest and Wildlife Tourism:* This type of tourism development should proceed in tandem, and help facilitate a preservation strategy for the states' forest and wildlife. This strategy has several components: introducing river tours in the numerous forest areas along the major rivers and their tributaries, swamps, creeks and lagoons and upgrading other wildlife sanctuary and the game reserve areas. Others are encouraging camping vacations and picnicking, excursions; opening fish and animal breeding farms to visitors and increasing interpretation at selected tourism sites.
- (iii) *Historic and Cultural Heritage Tourism:* The educational element of this tourism type is quite high. With its focus on areas of primary historic/cultural attractions, this tourism strategy can be divided into several components – historic buildings and monuments; religious centres and sites; museums; indigenous cultural contact and real experience; and fine and performing arts. A key element of this type of tourism is conservation strategy.
- (iv) *Agro, Village or Rural Tourism:* This will complement both wildlife and beach/river tourism developments in several areas. Many villages close to urban areas could be developed for day excursions. Village tourism present opportunity for encounter with indigenous agricultures, farm settlement, traditional life, especially associated with local farms, cuisine, drinks, marriage and burial ceremonies that are of interest to foreign tourists; it can also assist the local people develop their communities.
- (v) *Urban Hotel Tourism:* Some hotels of international standard are available in major urban areas such as Asaba, Warri and Effurun, but are not yet available elsewhere in the vast rural areas of the state. There are limited facilities for the more adventurous tourists in areas near or within the traditional/cultural rural tourism centres and the rural river/beach areas. However, continued rehabilitation of accommodation and development of new hotels should be rapidly undertaken in various areas with tourism resources in the state.
- (vi) *Resort Tourism:* With initial focus at Asaba, and along the Ethiope River at Abraka/Obiaruku/Umuaja, resort development should be in stages, eventually extending to include Onisha-Olona, Ossissa, Araya and Bomadi beach areas. These places meet the immediate site selection criteria for resort tourism development, including good beaches, scenic surroundings, availability of land for development and climatic desirability. Having specified guidelines, next the tourism plans for specific resort are expected to be integrated and inclusive to include land use zones for hotels, residential, commercial, public facilities and conservation areas, transportation network, and utility system.

Also, to ensure that tourism develops along stipulated guidelines within designated tourism areas or zones, an integrated planning approach and additional policy strategies are suggested as follows:

1. Demarcate and legislate on all tourism zones or areas.
2. Control and prohibit illegal and unplanned development in tourism areas.
3. Conserve the historic and cultural fabric of tourism areas.
4. Protect and safeguard the natural environment (landscape, flora and fauna) in tourism areas.
5. Provide basic tourism infrastructure/facilities in tourism areas.

6. Ensure safety on tourist routes and destinations by law/security agents.
7. Provide publicity/education on environmental responsible behavior and consequences of environmental abuse to tourist/visitors in destination areas.

Encouraging community or cooperative ownership and management participation in tourism is an important strategy advocated for tourism development in Delta State. The success of this strategy in developing sustainable tourism has been widely acclaimed in African countries with similar tourism environments as the Gambia, Senegal and Tanzania, (Richards 1977; Dekadt, 1979). Community and indigenous cooperative tourism ownership and management practices encourages local or community involvement in the tourism planning and development process. It helps to develop types of tourism that will generate benefits to local communities, enhance community tourism acceptance and support conservation of local tourism resources. These goals are congruent with tourism strategy thrust of mobilizing and encouraging private sector participation in tourism, and of attaining sustainable tourism developments, which are important objectives in tourism development planning in Delta State.

The communal ownership nature of land, forest and water, mostly of beach/water areas, sacred forests, and grounds, historic artefacts/sites, and in the staging of festivals and other socio-cultural practices of tourism is still strong and prevalent in many tourism communities, especially those in the rural areas. Such communalp ownership practices and customs lend support to the community or cooperative approach to tourism destination ownership, organization and management, particularly in rural areas where unique but less competitive destinations abound in close proximity. And, as suggested elsewhere (Awaritefe, 2004), there is the need to articulate planning strategies that would consolidate the numerous, poorly competitive, small scale and fragmented destination holdings that characterize tourism in Delta State into more integrated corporate management structures, as it is practiced in many developed tourism communities (Flagestad, 2002). Such integrated management structures are vital to ensuring better customer satisfaction, environmental and heritage resource protection, and sustenance of the indigenous character of tourism, especially of accommodation/catering and souvenirs. Furthermore, cooperative and communal destination integration in organization and management may enhance negotiation power of weaker destinations to tackle common problems of infrastructure/amenities, health/safety and promote tourism, which may be impossible for individual or small destinations in the state to effectively handle.

It is further recommended that there should be close coordination and integration of objectives amongst all agencies responsible for the various aspects of tourism development in the state. Links between tourism and other sectors such as agriculture, culture, costumes, architecture, and arts/craft should be enhanced to increase local community participation and gains.

Presently, there is inadequate coordination between each specific tourism policies in the State. Also absent in the tourism development policy of Delta State is the effort to specify the special considerations that must be made in tourism development, such as the key objective of minimizing negative environmental and social impacts. Consequently, certain tourism development objectives may conflict with one another. For example, one primary objective of tourism development in Delta State is the maximization of economic benefits of tourism, thus encouraging all forms of tourists/visitors including mass tourists. This objective clearly conflicts with the policy objective of minimization of environmental and socio-cultural impacts and sustainable developments. Also, by emphasizing present use and benefits, cautious policies and efforts are not been made to develop tourism so that its natural and cultural resources are indefinitely maintained and conserved for future use.

Additionally, a more integrated view of each LGA and community with tourism attractions in the State as sub-systems of the State tourism system to which tourism policy and development programmes are targeted is sought. This suggests ensuring establishment of functional tourism committees in each LGA and community with tourism attractions and effecting greater integration between these Tourism committees and the State Ministry of Culture and Tourism, and the State Tourism Board.

There is a strong cultural policy orientation in dealing with tourism. In Delta State and Nigeria generally, policy on tourism is regarded as cultural, and handled as such.

11.14 Conclusions

There is still little or no integration of other dimensions, specifically environmental aspects, in tourism despite the preponderance of natural attractions over cultural in the state. A more comprehensive policy concept of tourism that embraces both culture and nature attractions, not one that undermines the nature attractions is suggested. It is anticipated that future tourism policy would address these and related issues.

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D. SUGGESTIONS FOR ACTIONS TOWARD SUSTAINABLE FUTURE

Now, we want to add to the good examples a few further suggestions concerning the application of requisitely holistic behavior, either hidden behind the social responsibility or overt, for more people to act toward their sustainable future with a requisitely holistic for their outcomes to attain requisite wholeness to make people happy and humankind's current civilization survive.

12. Social responsibility and Adam Smith's economic theory

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Abstract:

If people strictly considered Adam Smith's economic theory the conditions could not surface in which large companies are both a minority and a nearly total power over the global economy and society. Their power would be no problem, if enterprises did not misuse their influence and favor short-term and narrowly defined interests and benefits over long-term and broader ones. Then, there would be no need for efforts toward requisite holism (RH) of human behavior, i.e. monitoring, perception, thinking, emotional and spiritual life, decision making, and action, aimed at causing the requisite wholeness of insight and outcome that is rare now. In the context of the dangerous contemporary practice – the blind alley of abusing Adam Smith to the benefit of a monopolistic tiny majority of humankind – social responsibility (SR) can have the form of charity and other kinds of a better care for coworkers and other business partners, broader society, and natural environment; all of these make sense, but are not enough. SR can also provide up-grading of methods of informal systemic thinking such as 'total quality management' etc. But SR may mean much more, too – a new way out from the blind alley of humankind that is, after the phases of competitiveness based on natural resources, investment, and innovation, respectively, approaching the phase of affluence except in areas failing to innovate enough. Affluence is both a top fulfillment of human desires, and a blind alley: increasingly affluence in which people have everything felt needed, or crisis, makes people no longer motivated to work and buy (or it makes people eager to consume over their needs and throw away, because they lose the sense of rationality as well as of empathy, such as the 'nouveaux riches'). SR in synergy with RH of human behavior, and with creativity that is aimed at the Fromm's transition from human being-owner to human being-creator, might possibly save the current human civilization from destruction that has happened in all previous civilization in their phases of affluence. SR is a process of social innovation and its well-founded end/objective.

Key words: Adam Smith, affluence, blind alley, invisible hand, liberalism, requisite holism, requisite wholeness, social responsibility, systemic thinking/behavior

12.1 The selected problem and viewpoint of consideration

The currently prevailing economic theory cherishes Adam Smith, his free market, and pure liberalism (Baumol et al, 2007). We would do so too, but we doubt that we comprehend market equally and share estimation whether or not a free market exists today. If it worked in its pure theoretical form, there might be no need for talking about the issues of social responsibility (SR) and even focusing SR on enterprises. Theorists of the free market theory claim that a free market automatically takes care of full justice, including solidarity (Baumol et al, 2007). Protests against higher prices around Europe, economic crisis in USA and its expansion around the world, poor life of billions of people around the world of which 85% or six billions live on less than 6US\$ a day and 1 billion on less than 1US\$ a day (Nixon, 2004), destruction of the natural environment, etc. provide evidence that no pure liberalism exist and works, unfortunately. Some authors claim that the problem stems from the fact that e.g. air has no owner to fight for it in market. But daily news show that many owners do not work for benefit of all stakeholders/humans and/or the longer-term interests of them-selves; they tend to forget the experience that abuses cause revenge and hence high costs. The point is hence not in owners as such, but in SR of owners and power-holders (Crowther, Caliyut, 2004; Dyck, 2008; Ećimović et al, 2002, 2007; Ećimović, ed., 2008; Glas, downloaded in 2008; Goerner et al., 2008; Hrast et al., editors, 2006, 2007, 2008; James, 2007; Knez-Riedl, 2006d, Landini et al., 2006; Metcalf, editor, 2008; Močnik, Mulej, 2008; Hrast, Mulej, 2008; Mulej et al, editors, 2008; Toth, 2008; Waddock, Bodwell, 2007). The point is less about professionalism in decision making and more about values, culture, ethics, and norms directing the decision making (Čančer, Potočan, 2006, 2008; Dabić, Potočan, 2007; Mulej et al., 2006a, b, c, d, 2007a, b, c, 2008a, b, c, d; Mulej, Potočan, 2007; Potočan, 2006, 2008a, b, c; Potočan, Čančer, 2007, 2008; Potočan, Mulej, editors, 2007; Potočan, Mulej, 2006a, b, c, d, 2007a, b, c, 2008; Potočan et al., 2008; Treven, Potočan, 2006; etc., and references therein).

12.2 Notions in Adam Smith's theory of crucial importance for this discussion

Those of us who have ever dealt with the basic theorist of liberal market economy A. Smith from the viewpoint of systems theory as the theory of (requisitely) holistic human behavior, made of monitoring, perception, thinking, emotional and spiritual life, decision making, and action (François, 2004; Mulej et al., 2008 and earlier, since Mulej, 1974; Mulej, 2007 a, b), might expose some other A. Smith's thoughts than others do. Toth (2008, 100-102, 132, 147) points out:

1 Older socio-economic systems practiced no more justice than capitalism – the free market economy. But justice

was often valued more highly than profit, in their times. Still, the modern capitalism is the best version so far, although its blessings do not reach all contemporary people, and differences are big and growing. The advantage of capitalism seems to have reached its peak and to grow no more. It should be improved to develop into something better that will keep the current benefits and correct mistakes.

- 2 A. Smith attacked the notion of limited responsibility. What is known today as limited liability or joint-stock company, used to be forbidden in UK from 1720 until 1862. Smith considered the existence of joint-stock companies was actually an obstacle for making of competitive markets; one's own interests are harmless only if realized in small local communities and local dimensions. Thus, enterprises are under control for honesty in community and in a thorough judicial, moral, and economic responsibility of the owner/manager.
- 3 Although capitalism fortifies the tendency toward moral relativism, it practically erases the idea of justice from economic thinking. In its economic theory 'homo oeconomicus', i.e. the human increasing profit, is elevated to the central position; besides, every human being counts also as a consumer, therefore benefit always wins over justice.
- 4 'Shared benefit is no matter of generosity of the butcher, brewer, or baker, for us to get our dinner, but it is a part of their own interest In directing his diligence in a direction in which the yield presents the highest possible value, the entrepreneur thinks of his own revenue only; in this effort the entrepreneur, like in all other cases, is led by the invisible hand leading to a goal that has not been a part of his aim.' (Citation of A. Smith).

How should these summaries be read from the viewpoint of the relation between economy and SR?

1. It is obviously market which acts as the invisible hand. In market the highest benefit belongs to supplier attracting customers best of all. Once the entrepreneur's self-interest is his revenue/profit, he cannot succeed, if he is so very selfish that he does not care for his customers and thinks they do not see his abuses and have no alternative. Therefore, the market must allow no monopolies. Monopolies create relations of dependence and independence instead of interdependence. The latter requires entrepreneur's holism reaching at least the level of RH of behavior for requisite wholeness of insight and outcomes; RH means consideration of everything essential in networking and synergy (Mulej, Kajzer, 1998 a, b).
2. Free market is more than a place in which supply and demand show up and prices are formed. It is first of all a relation in which nobody has a predominant bargaining power and cannot abuse her impact, like the slave-owners, civil and clergy feudalists and other monopolists used to, be them governments or entrepreneurs, including the contemporary ones. The advice 'laissez-faire' reflects this with its demand for no monopolies to exist: all market participants are small, all products and services on supply are transparent and easy to understand, etc. This is no longer completely true. Thus, there is anti-monopoly legislation, but it is obviously weak, in the global market at least. Despite of this people and companies innovate much more than they ever used to and do so all the time today in order to be competitive or even temporary monopolists. This competition causes both progress and problems: the permanent effort is stressful, and side-effects on nature and humans and peace etc. ruin motivation, lives, etc. (Treven, Potočan, 2006; Udovičič, 2008). They are actually no longer just side-effects, but crucial.
3. The entrepreneur's profit results, as we know, from the difference between cost and price of the sold product or service. This puts an essential question: what is calculated in the cost and what is instead left aside or (for the time being, at least) an uncovered cost. Postponement of costs to later times or transfer of them on other people might mean also abuse, e.g. of the law of external economics¹, especially, or of the law of supply and demand (by un-normal profit). Abuse of the law of external economics causes the piled-up uncovered cost of e.g. the maintenance of natural conditions for survival of the current human civilization to grow over 5.500 billion Euros; this amount reaches beyond the cost of both World Wars combined; if humankind keeps postponing the necessary action, GDN may fall for 20% (Stern, 2006, 2007). If these sums are included in calculation, GDP has grown fictitiously only, over the recent many decades (Božičnik, 2007). Abuse of the law of supply and demand e.g. concerning labor causes strikes and other forms of trade unions' costly fight against employers etc; concerning products it leads to falsification, grey and black markets, very high prices of energy sources, extremely low pay in Africa etc., refugees travelling to Europe and USA, etc. The predominant bargaining power simply tends to lead people to morally questionable behavior based on short-term and narrow-sighted criteria. Consequences are very costly.
4. Walker (1978) found that A. Smith and K. Marx had tried, first of all, to create a model enabling the pre-industrial village-solidarity to survive in the industrial/entrepreneurial economy. The big capital, growing independent from humans, multinational enterprises outside real impact of any government and with big impact over government, view solidarity an expense rather than an investment. In longer term they are not necessarily right: consequences might be very costly. Dyck (2008) and Goerner et al. (2008) speak against such short-sightedness and abuse; they quote and use similar arguments as A. Smith used to: an enterprise may not be an independent legal entity, but a

¹ The law of external economic says that having any of one's cost paid for by others diminishes one's own cost. This is why e.g. iron manufacturers settle close to mines, iron users next to them, final goods suppliers as close as possible to their customers. The benefits are mostly true in a short term only, when we consider the case of cost of maintenance of the natural preconditions for the human current civilisation to survive. In a longer term the postponed costs must be covered. Air and water in towns are not healthy and medical etc. costs are caused, e.g. These costs are not covered by government, but through it by people and their organizations. Etc.

tool of humans, also in legal terms, for humans to assume full responsibility for it as private persons.

5. A. Smith wrote first his book on 'Moral sentiments', and only later on the one on 'Wealth of nations'; the first one provides a basis for the second one: values of interdependence. Thus, SR is a new attempt to innovate the values/culture/ethics/norms (VCEN) in order to prevent abuses and to introduce a real liberal economy replacing the farce ruling under its name now. In the current economic practice, the role of government is limited to weapons etc. trade instead of the role foreseen by Keynes – the role of additional market regulator for the free market to survive (Dyck, 2008; Goerner idr., 2008) (if we now do not tackle medical care and similar less market-prone social needs).
6. If A. Smith has spoken of the invisible hand meaning interdependence, like Petzinger (2000) also has read, then A. Smith introduced into theory a new effort to realize interdependence. The latter has been pointed out (see Mulej et al., 2000) as an essential attribute to be considered necessarily, already in the ancient Chinese philosophy – by the notion of yin-yang as a synergy of interdependent opposites. Engels (1953) cites that interdependence as an attribute of all parts of nature, including humans, has been a topic of the ancient Greek and of Hegel's philosophy of the 19th century – under the label of dialectics. It is thus very unnatural if the ruling people in enterprises and countries and other organizations oversee that only interdependence is a natural attribute while dependence and independence are crucial legal and political notions. Legally, independence prevents abuse of humans, while dependence provides abuse. History demonstrates that those who had been forced in dependence by others, have always rebelled, and have put in trouble the persons/nations who failed to admit interdependence. The same is true in relation of nature and humans who have subordinated nature, after times of living on gathering and hunting, by switching to production, first in agriculture, etc. Now nature seeks revenge by climate change. How badly has interdependence been forgotten about in industrialization times, is shown by the big echo of two authors exposing interdependence after WWII: (1) Bertalanffy (1950 and 1968, edition 1979, foreword) made interdependence the basis of his General Systems Teaching/Theory; (2) Lovelock launched his hypothesis Gaia (Crother in Ortiz Martinez, 2004, p. 104; Myers, 1991), saying that organisms are interdependent in nature and influence each other therefore, although they are not necessarily linked visibly and directly. Crother in Ortiz Martinez (2004) explain that interdependence includes organizations and should be taken in account in governance and management. They find even more: 'Recently the selfish tendency toward monopolies of 1990s has been replaced by the care for SR; thus, RS is again on the agenda of enterprises, government, and citizens around the world'. And they state: 'EU defined corporate SR (2002, 347 final, p. 5) as follows: corporate SR is a concept with which enterprises incorporate their care for society and environment in their business activities and in their interactions with their stakeholders.'
7. Thus, the current so called financial crisis of the world economy is not simply a financial crisis, as the may look like on surface, but it is a crisis of the basic economic concept, especially of the abuse of A. Smith (who they take as their cover). Contemporary circumstances differ from his times crucially. Nixon (2004, 193) belongs to authors who warn that 'the contemporary world is certainly full of opportunities and life has improved a lot in it, especially in the West, if compared with previous generations. But globalization does not work, at least not in its current form. It works for a small minority of the very rich and influential people, but not for the masses of six billions: 85% of them live (according to World Bank data on less than six US\$ a day and one billion even on less than one US\$ a day. This is not caused by globalization and its failure to work; globalization has existed for centuries and has yielded big benefits to humankind. Trouble is caused by the economic system with its doctrine of free market capitalism, consumerism and permanent economic growth; some call this a global power of money (global monetocracy), which does not work. Good two centuries ago A. Smith who is called the father of this doctrine, has warned that an unbridled market is dangerous'. The human nature causes market to permanently tend to commit suicide in the form of dominance of monopolies over competition, which influential people value less than their monopoly (from home onwards). Benefit is beneficial.
8. Where are limits of benefit? If one views with a too narrow and short-term perspective, one tends to not perceive the long-term and indirect benefits. This fact makes values, skills and viewpoints of individuals and their conditions matter. Awareness is important that one can think and act more broadly and attain benefit therefore.
9. Is the invisible hand an incident, or a synergy of conditions? Or is it made of all what individuals are unaware of and brings them to unexpected outcomes? Today there is a lot of indirectly visible hand of the influential ones.
10. As pointed out by Porter (1990; let us leave his texts about SR aside now), competition-based economy has experienced evolution of the basis of competitiveness; it includes four phases:
 - a. Natural resources, when people had a bad life;
 - b. Investment, when people live better, but mostly foreigners/investors;
 - c. Innovation, when people live on their own RH creativity and therefore better and better;
 - d. Affluence, which is at the same time the highest level of human desires and a blind alley: when you have everything you no longer feel motivated to work in order to have, hence you cherish laziness and need support.

We (Mulej et al., 2007a, b, 2008a, b; Prosenak, Mulej, 2008; Prosenak, Mulej, Snoj, 2008; etc.) see a way out from this blind alley in a fifth phase to be created. It should be based on synergetic networking of (1) SR as a way of RH

behavior of people, (2) ethics of interdependence, (3) creation and innovation including general purposes, (4) dominance of the creative class (Florida, 2005) – for humankind to come closer to the Fromm's transition from owner to creator (James, 2007), and replacing the cult of laziness and free time with no content of so far.

In brief: As individuals and as humankind we must decide: shall we either continue our way to the blind alley in which we do innovate a lot, but much more in technological terms than with RH; first of all, we must innovate the managerial and business style for more RH by SR, hence the related VCEN – for more democracy and creation instead of a blind obeying to orders lacking RH/SR (e.g. IBM, 2006; Potočan, Mulej, 2006, 2007). Dilemma reads: either we as humankind and individuals innovate our VCEN toward SR – RH to attain requisite wholeness of our insights and outcome, or we will soon ruin our natural preconditions of our existence (references of so far and other contributions in this book). Innovation to which the current generation has condemned itself leads unavoidably to either affluence as a blind alley or to another direction that is offered by SR concept. The technological progress does diminish the material consumption and destruction of natural environment per unit of product/service, but at the same time the total amount of production, specialization, trade and traffic is growing so much, that both the consumption and destruction only grow less rapidly, but do grow all the time. Over the recent two centuries the entire energy consumption on the planet Earth has grown 40 fold (Kajfež Bogataj, 2008, quoted in Mulej, Hrast, 2008).

12.3 Definition of social responsibility in terms of summarized insights

We are viewing SR here in perspective of systems theory as a science on attainment of RH behavior aimed at requisite wholeness of insights and outcomes. We use the latter also to deal with innovation and we see a practical connecting point of them and SR in the daily experience – VCEN need innovation toward more holism meaning less selfishness for selfish reasons. A narrow selfishness does not protect us from envy and protests all way to terrorism on part of those who feel that the decision makers do not decide with SR, but with a narrow and short-term, if any responsibility except a fictitious one, etc.

SR does not ask whether or not there are e.g. entrepreneurs and more or less high and even questionable awards for managers, but it ask about criteria that should be felt among people as, at the same time:

- 1 Requisitely honest and based on real achievements, hence acceptable without envy, i.e. as ethically correct;
- 2 Achievements enabling economic and social advancement including a RH quality of a requisitely big majority; and
- 3 Attained by methods/products that do not ruin natural conditions for life of humans and other living beings without which humans cannot live, such as bees etc.

People, times and conditions define differently what is a socially acceptable, i.e. SR behavior. Criteria have always depended on VCEN of the most influential ones, the power holders. Their values became culture, ethic, and norms, when attracting people as followers by appeal or force (Potočan, Mulej, 2007). Their VCEN were expressed in ideologies, e.g. religions and similar tools of power providing ownership and joy to the most influential ones. These VCEN, according to official definition of SR tackle manners of the influential ones in treatment of (EU, 2000, 2001, 2006 a, b):

- 1 Their co-workers;
- 2 Their other business partners;
- 3 Their government, non-governmental organizations etc., i.e. broader social environments; and
- 4 Their natural environment as the natural precondition of survival.

In all four aspects the influential ones must attain more RH behavior than earlier, i.e. innovate their practice.

Thus, SR is a process of social innovation and its objective for humankind to find its way out of the current blind alley. Success of this process depends on humans, of course, especially on the influential ones.

Influential people can use their influence to define criteria of what is wrong on right, sometimes with a too narrow and short-sighted egoism. Then, they do not prove their SR, and they lose their power, ownership and joy, gradually at least. During the latter process, the SR and legal responsibility tend to mix up, but they can differ: the power-holders are influential enough to be able to adapt legal rules to their interests, including narrow, one-sided, biased, and short-term interests. They often do so more easily than accept VCEN with SR based on broader defined and perceived RH. This may bring them in trouble. Thus, the famous Friedman's definition that SR is unacceptable is wrong: companies must care for their profit and benefit of their owners, but not with narrow and short-sighted criteria only (Goerner et al. 2008; Toth, 2008; etc.). Friedman won his Nobel prize for economy in 1970 for his theory of conservative neo-liberalism, which now proves to be out-dated and detrimental for enterprises and society at large. It does not match the old proverb that 'The first profit does not go in the pocket' – a short-term benefit based on narrow and short-sighted criteria often costs much in a longer term.

For millennia, people also used many religions to foster SR, and they do so today. There has always been a mixing, networking, and fighting of the concepts of more narrow and short-term interests on one hand (read: interests concerning now and here) and of the more long-term and broader interests, on the other hand, reaching beyond now and here (Rudel, 2008; Wu, 2004).

Slave-owning and feudal societies clearly enforced narrow and short-term interests, as their opponents said. This practice led both long periods of human history in a life that in criteria of quality of life of today has experienced a poor economic efficiency and quality of life of a big majority of people, and in extreme differences between the rules and subordinates, around the world. Before the Western Industrial revolution China and India supplied 80% of all global

production, but today they are coming close to 10 % (Bošković, 2006). The industrial and post-industrial/entrepreneurial society differs from the previous ones by its principle of equal chance of everybody to expose their skills and interests and to contribute to the quality of life of them-selves and others. Practice shows that in terms of book-keeping data the entrepreneurial society seems successful in raising the standard of living, but the differences in quality of life are again very similar to those in feudal times: if only good two hundred richest individuals donated less than five percent of their properties, four million children a year would not die for hunger and illness (Crowther idr., 2004b). Similar are other data (Nixon, 2004; Toth, 2008; etc.). Private owners enforce their interests, so do governmental ones, although formally legally there are no owners. Ownership is no problem, but the short-sighted and narrow definition of interests of the influential ones, who forget about SR's longer-term and broader effects, or failure of using SR concepts.

Thus the crucial issue of SR reads: do the influential ones abuse/misuse rather than use with RH behavior their chances hidden behind legal responsibility and protection; abuse/misuse fails to lead to SR, but to its opposite. Hence, in our perception, the essence of SR in practice is the prevention of misuses/abuses of legal, economic, and natural laws, and enforcement of replacement of the narrow and short-sighted criteria of right and wrong for broader or even RH criteria. Actually, this is what A. Smith has been speaking for, although today they ascribe him the opposite opinion.

Rare authors (such as Walker, 1978) say that Adam Smith and Karl Marx have aimed in their research at a way to preserve the village-solidarity of earlier times after transition from the village to the entrepreneurial society. They did not succeed. Nobody did. Therefore the effort called SR is showing up today to help influential people think in longer-terms and broader criteria. No wonder, SR has hard times to become a general VCEN. The short-term and narrow views of decision-makers make obstacles all the time, and there is neither a theory to replace the current economics, although this leads humankind to a blind alley.

People who abuse the label of liberalism to cover the huge modern differences in richness, health, famine, etc. and destruction of the humans' natural environment, fail to see that A. Smith does not favour narrow and short-term interests (See citation above in this contribution). The invisible hand expresses the logic of economic interdependence: you must delight your customer to have him return and make you happy as a supplier. The fact that people enforce under the label of A. Smith economic thoughts and interests opposing his ideas, is visible in conditions concerning the human care for natural preconditions of life and survival of the current civilization: this care is worrying even in global official data.

These data express abuse of the law of external economics. This law can often be beneficial, but has been applied to nature with expensive consequences. They will obviously damage generations to come soon – our children and grandchildren already. The influential ones act like if they hated their off-springs, when they act on a narrow basis and with no SR.

Thus, SR enforces own benefits/interests of people, but not merely the narrow and short-term ones, but also or even first of all the long-term and broad ones. People need to reinforce them in the form of national and international legislation and VCEN of their enterprises and other organizations for the human civilization of today to survive. Market – as an institution aimed at reinforcing the invisible hand – needs support. Not all private or governmental owners should be off, but the ones without SR. They make too much damage to the coming and their own generations.

Let us hence be less selfish for selfish reasons. We are not independent, but interdependent part of nature.

12.4 How much cost and benefit does social responsibility cause and to who?

Many author, such as Waddock and Bodwell (2007), Crowther and Caliyurt, editors (2004a), Crowther et al., editors (2004b), GV Planet (2007), Knez-Riedl (et al., 2001a, b, 2002, 2003 a, b, c, d, 2004, 2005, 2006 a, b, c, 2007 a, b, c), Toth (2008), Hrast and Zavašnik (2007) etc., invest big efforts to provide a rather clear and unified definition of the term SR and benefit from SR, which might invite people and their enterprises to apply SR in their practice more regularly in in bigger numbers. There are many versions, from which a common denominator can be summarized as follows:

- 1 There is no unified and simple definition how beneficial is, or is not, the SR.
- 2 In general SR is about honesty of the influential ones toward their co-workers, other business partners, broader society, and natural conditions for human life.
- 3 At least indirectly, e.g. with image and customer fidelity, SR pays off.
- 4 SR up-grades the efforts for total quality, business excellence, innovative business, business re-engineering, etc.
- 5 Always, one must weigh the relation between the more narrow and broader, the short-term and long-term, direct and indirect benefit and costs/burdens, including the visible and hidden benefits and burdens.
- 6 SR is a tool for more RH behavior in such and similar assessments and other actions.
- 7 Benefit of business or other effort is needed. But SR asks: what is its basis; how is RH consideration of all costs and benefits, what is the price of attaining them – now and later, visibly and invisibly? See some cases in Table 12.1.

In brief alternatives must also be considered and weighed in terms of the law of RH, not merely the directly visible costs and benefits; others cannot be avoided, at least not in a longer term.

12.5 Conclusions

SR (of enterprises as human tools for a part of economic benefits) can be a superficial charity, some saving of energy and nature, some fair treatment of co-workers and other business partners and broader society, etc., which is fine, but SR can be also much more: upgrading of methods of so far for social advancement and sustainable future, such as total quality management, business excellence, innovative business, business reengineering etc., consideration of the law of RH in the daily practice, or even a new way out the current blind alley of affluent and complacent society, or even a new way to the world peace. If we network in a synergy:

DIRECTLY VISIBLE COSTS	INDIRECT, MAYBE HIDDEN COSTS
Cost of happiness/motivation/commitment of co-workers as creative/innovative people	Cost of strikes and poor use of creative and other capabilities (for work rather than resistance)
Cost of fidelity of co-workers in the enterprise (or other organization)	Cost of support to fired co-workers (via taxes) and enabling of new co-workers
Cost of privileges of the most influential ones	Cost of resistance and revolt of un-influential ones
Cost of reliability of business partners (other than co-workers)	Cost of checking/assuring quality of (all) phase of the supply chain of business
Cost of prevention diseases and provision of healthy work and life conditions and habits of people, especially co-workers, etc.	Cost of medication (via taxes and direct), of replacing co-workers and their enabling, of support to disabled co-worker etc.
Cost of public and internal education and training of co-workers and other stakeholders	Cost of too poor quality, rationality, productivity, creativity and innovativeness
Cost of broad information and refreshment and renewal of knowledge and VCEN of co-workers	Cost of a too poor insight in the essence, adaptability to new conditions etc.
Cost of charity to the benefit of cultural, sport, fire-fighters etc. activities providing sense-making content and creativity in leisure time	Cost of consequences (via taxes and direct), of too much drinking and similar leisure time contents damaging health
Cost of government for security, reliability, order etc.	Cost of insecurity, unreliable, possible terrorism and similar. experiences
Cost of non-toxic etc. natural environment by RH use of external economics	Cost of illnesses, eco-remediations etc. consequences of abuse of external economics
Cost of fair use of the law of supply and demand (normal profits)	Cost of abuse of the law of supply and demand (normal profits) (exceptional profits now, but later?)
Cost of training limited to a narrow, currently needed specialization without training for inter-disciplinary creative co-operation.	Cost of training for inter-disciplinary creative co-operation, as a precondition for RH behavior at work and otherwise
Cost of training for routine or even routine-loving work without creativity and co-operation.	Cost of capacity of creative or even innovative work and co-operation

Table 12.1: Cost/benefit alternatives in business – some examples

- (1) Creativity which does not tackle only innovation of product, services, and work processes, but includes also a sense-making content of working and leisure time of people as creative creatures;
 - (2) The fact that the creative class is increasing its share of society (Florida, 2005); with
 - (3) The Law of requisite holism and requisite wholeness (Mulej, Kajzer, 1998); and with
 - (4) SR of creative people and their co-workers and stakeholders as the most influential groups; and
 - (5) The ethics of interdependence of all part of humankind and other nature;
- Then we might be able to find a way from abusing the liberal economics to sustainable future.

Tolerance for diversity brings talents and makes investment in technology worth while, the 3T model says (Florida, 2005); this makes the difference between the most successful and other regions. But there may be no tolerance for forgetting that the blind alley of the current economy has been no consequence of market, but on of misuse/abuse of A. Smith, the father of economics, who has foreseen SR and has put the profit in the role of it tool rather than its master. Thus, with the SR we are searching a 5th phase for humankind not to perish in the 4th phase (affluence and complacency), like all empires in history have perished when they attained affluence/complacency. Then, the share of people without motivation for work and creation grew: they had everything they desired. Those who refuse life reality by drinking too much, poisoning them-selves with drug abuse, cherish laziness rather than creation in their leisure time, etc., are a sign of the later group.

Model must also be realized, of course. SR is an invention aimed at becoming innovation and being diffused to become a prevailing general practice (e.g. Mulej, 2007b; Mulej et al., 1982 and later; Mulej et al., 2008 and earlier; Knez-Riedl, Hrast, 2005; Mulej et al., 2006e; Potočan, Nedelko, 2007; Ženko et al., 2008). The following chapters of this book are addressing this issue.

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13. Eco remediation and the climate change system's impact

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Abstract

The sustainable future of humankind or harmony of our civilization with the nature of the Planet Earth is an option for humankind to survive approaching impact of the climate change system at the biosphere of the planet Earth. Eco remediation technologies and techniques (including application of innovative eco toxicological survey followed by environmental biotechnology and eco engineering) are possible good assistant of humankind for prevention and remediation of the pollution of three basic living environments: land, water and air. Present human environmental management of the human eco sphere and environment at biosphere of the planet Earth is actually mismanagement and overestimating of influence of the humankind to the future of the planet Earth. It is obvious that we human have technologies, which are harming and could harm more of the living conditions on the planet, with possible serious consequences for us. Our common enemy is the climate change system as major threat to the quality of living conditions needed for us to live on the planet Earth. Common action of experts and society should be focused on feed-back system of forecasting of effects of warming processes, and more effective primary prevention on local community, regions, nations and larger scale including dissemination of game for surviving especially among young generation.

Key Words: Sustainable future; Our civilization; Eco-remediation; Innovative Ecoengineering; The climate change system; Our common enemy; New approach; Global society; Game for surviving, etc.

13.1 Discussion

Eco remediation technologies are a part of humanity's sustainable future. Eco remediation is an integral part of the protection of nature, space and the environment, towards a sustainable future of humanity or for the harmony of our civilization with Nature (Ećimović, 2005).

Very promising and innovative are Environmentally-friendly laser biotechnology for reclamation of deteriorated lands, biomass production at energy plantations versus overexploitation of forest and contribution to primary prevention of warming processes by stimulating assimilation of CO₂ by irradiated plants on large scale (Dobrowolski).

The climate change system is a novel approach for understanding the natural sciences. The climate change system is *not*: climate change, global warming, destruction of the ozone layer, the green house effect, etc.; instead it is part of the nature of the Planet Earth. The climate change system is a natural system with many systems working within it, and yet other systems working outside it. It is located somewhere within the Planet Earth system (i.e. the whole) of which its biosphere system has three fundamental parts: the terrestrial, water and air systems of our living space. The climate change system is maker, provider, holder and guardian of the living conditions within the biosphere of the Planet Earth.

The sustainable future of humanity or the harmony of our civilization with the nature of Planet Earth is the only option for humanity if we are to survive the approaching impact of the climate change system on Earth's biosphere.

Eco-remediation is the use of technologies and techniques of natural and co-natural prevention and treatment applied to nature, space and environmental pollution/protection issues. This definition is not complete without taking into account a complex supra/multi-disciplinary approach to the specific issues of land, water and air use, re-use and pollution prevention/treatment. Contemporary, classical and applied research is taken into consideration on the one hand and, on the other, so is the cooperation of the local community which is the main user and beneficiary, while also being the fundamental unit of humanity on Planet Earth.

Planet Earth's natural system has been maintaining itself for more than 4.6 billion years (4.600.000.000), with many ups and downs with respect to possible living conditions. With the evolution of humanity's environment (human eco system), the natural system has recently come under stress, and changes in the quality of living conditions are consequently taking a new turn. The natural system is using its system qualities and quantities as its permanent practice under the rules of independencies, interactions and co-operation. We cannot change living conditions but we may or may not fit into them. When we explore and gain knowledge of how the natural system and its ceaseless 24-hour processes operate, we will have a chance to properly understand the good and bad impacts of our society on its operation.

Planet Earth is not our civilization's personal playground, and it does not belong to us. In fact quite the opposite since we (our civilization as a whole) are only one group of living creatures living on the globe's surface (mainly the terrestrial part). We have been, and are trying, to accommodate ourselves very well to the quality of living conditions

during our civilization's time. But recently (during the last 200 – 300 years of the industrial and subsequent era) our impact on the biosphere has been triggering a reaction from the natural system. The resulting new conditions do not benefit our civilization, but rather the contrary. And this is the main reason for contemporary, classical and applied research, and for the introduction and use of natural and co-natural technologies and techniques for eco remediation and for the prevention and cure of environmental pollution in the terrestrial, water and air systems of the biosphere.

The impact of our civilization could be summarized in the following way: Our civilization's first settlements were built some 14,000 years ago, as a result of the social life-improvements of pre-antiquity humans. The first settlements on European lands were built in swampy areas for security reasons, and the population consisted of up to 10,000. This was a result of the changed conditions within the biosphere which evolved after the last ice-age, which ended some 60,000 – 16,000 years ago. Since then the climate change system conditions on Earth have been of almost the same quality right up to the present time. Changes have, of course, occurred but not as extreme as the ones we face now. The difference between today and 200 years ago is due to the extreme input of our civilization's output into biosphere including all sorts of waste, the side-effects of nuclear technologies, synthetic chemicals, the human population explosion and its consequence which can be seen in the destruction of the biosphere due to the ways that human needs have been met.

The climate change system as an integral part of the Earth's biosphere has a bigger influence on our civilization than humans think or believe. In absolute terms the climate is provider, holder and guardian of the living conditions which make our life possible. But we humans are doing our best, through our "modern" relationship with nature and each other, not to appreciate this fact. Instead we harm the climate change system as much as we can, yet fortunately not as much as we think we may.

It is *not planet Earth* that is the home of our civilization, but *the biosphere*, which is itself only a tiny part of the planet Earth. Vulnerability of the two is separate issues, and they are not even comparable.

At present we face a large pollution of the biosphere with synthetic chemicals. This is a consequence of a lack of consideration of both the complexity and complicatedness of our (only!) biosphere.

Due to an exaggerated growth in the needs of our civilization (drinking water, industrial consumption of water, etc.) and the demand for agriculture and food production, water sources in nature are becoming insufficient. Many innovations have been used to solve this problem, of which many have had an impact on biosphere systems. Let us mention here the exaggerated use of fresh river/lake waters resulting in the destruction of underground aquifers combined with a lack of understanding of the physics of underground water deposit systems, etc.

At present we face a large deficit in fresh water sources, and the quality of present sources is questionable due to pollution from synthetic chemical compounds and their long-term effect. Recently, also the influence of hormones and hormone-like substances is becoming more and more important. Today we do not have a clean, fresh water supply, but only a supply of fresh water of a quality which falls within allowed limits of pollution by synthetic chemical compounds and other pollutants. From a water supply viewpoint, our future does not look good.

Our civilization's settlements in the near past and present (evidencing an over-concentration of people and the self-creation of a fragile environment – mega-cities, etc.) are causing the pollution of all waters in such regions, including areas to which the polluted waters travel. Actually, pollution has been a combined effect of city life (countless toxic substances – natural and synthetic chemicals, etc.) and the waste-waters from individual kitchens and sinks, toilets and sewage systems, and from "natural" river flows. Secondly, present agricultural practices intoxicate the land and ground waters and this extends to areas reached by their run-off. Finally all this disgorges into coastal seas and ocean waters which are now at various stages of pollution/toxification.

Our civilization has used rivers as a sewerage transport system. To protect human settlements, property, and civilization's achievements against flood risk, huge hydro constructions were introduced. In fact, by our civilization's actions, we have straightened natural river flows and so have destroyed their natural/biological "filtering" properties. We achieved a rapid off-take of river water, and this only because we did not protect human civilization and its achievements against floods. In the long-term the floods are still there, but with a far more damaging effect. The majority of rivers now need eco remediation to restore their natural ability to host life and the other qualities destroyed by our civilization.

A further topic having a comparable destiny is our estuaries and coastal waters, which in many cases were developed to accommodate businesses, settlements, and tourist resorts with poor natural biosphere characteristics. These are opening up new frontiers for the pollution of coastal waters and as a consequence our oceans/seas are becoming increasingly polluted by synthetic chemical compounds and other contaminants.

Today larger share of the human population than ever use littoral coastal lands for their living environments. The pollution of coastal waters is taking place and in them we shall soon see the results of our continuous and damaging actions.

With on-going human development, more and more land is being changed in its natural characteristics. At present in Europe land use distribution is: 47 percent agriculture, 36 percent forestry and 17 percent construction and development or sealed land, lost forever to Nature/Biosphere.

Present pollution on a global scale (synthetic chemicals, nuclear technologies, CFCs and like substances, pesticides, genetically modified organisms, hormone-like substances from synthetic chemical production and medication,

technological impact – combustion and other engines, transport equipment, armaments and other war equipment, PCBs with impacts on gene structure, massive waste particles/parts/units of air-space/satellites and spacecrafts around the planet Earth, etc.) reflects our civilization's short-term thinking and action. What we need for our sustainable future is long-term responsibility for our civilization's impact within the biosphere.

Present practices on the Earth include:

- 1 The destruction of nearly all terrestrial waters by synthetic chemicals, bio and air (rain-induced) pollution,
 - 2 The destruction of air by land, sea, and air traffic, and synthetic chemicals,
 - 3 The destruction resulting from war,
 - 4 The destruction of the ozone layer,
 - 5 Destruction of soil fertility by present agricultural practices, including erosion and desertification,
 - 6 Global warming, and of course
 - 7 The explosive reproduction of humankind,
- and all of them should be managed in such way as to assure humanity's long-term sustainability on the Planet Earth.

13.2 Recommendation

Our recommendations are in Chapter 27 of this book.

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14. Scientists and teachers of universities should increase the personal responsibility before humankind for protection of an environment and of universal moral values today

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Abstract

Keeping in sight the facts of sharpening of technical and economic, ecological and moral problems of humankind during of the last fifty years, I have dared to generalize my supervision in the articles and textbooks for students. From of preparation and the first edition of my « Ecology and economy » in 1990s and up to today estimation of ecological, economic both social problems and offered scripts of their decision have appreciably changed. It was caused by essential complication of political and economic processes of formation of the global world market and as consequence (investigation), increase of danger of ecological risk, that has found reflection in the final declaration of the second World forum of the United Nations of 2002 in Johannesburg. From the middle of the last century the growth of planetary industrial urbanization of global ecological systems of biosphere threatened to get out of hand. Really, modern technological processes, absorbing huge natural resources for creation of industrial means of production, vehicles, building materials and the various consumer goods, generate huge planetary streams of toxic wastes and useless thermal energy of low temperature. It critically brake balance of natural processes of global ecological systems of biosphere and, as consequence, creates threat of genetic stability of biological organisms. And it is now more than ever apparent at the same time we are destroying our future. This global problem has been widely discussed at the first world forum of the United Nations "the Planet the Earth" in Rio de Janeiro of 1992 where **the Program of actions** "the Agenda on XXI century" has been accepted. As known, the purpose of the Program of actions was to coordinate global actions of the humankind directed to satisfaction of needs of the modernity, without threat for the future generations to satisfy their needs. Until today some progress has been made in this direction. The countries — members of the UNO — have set up environmental protection agencies. The international organization Greenpeace is also doing much to preserve the environment. Certainly, we speak to each other that we understand all this and something (even much) is undertaken for prevention of such threat, but we see results are not very consolatory. Let's take it into consideration to analyze genesis of such environmental problems.

Key words: ecological crisis, learning from nature, Ukraine

14.1 The situation and problems of danger of ecological crisis

In the superficial analysis of sources of problems of modern ecological crisis we, first of all, name scientific and technical revolution and the extensive militarized industrial economy of the last century.

But is it so?

I know that is not so.

Today we can convert (to transform) any harmful industrial wastes by technological process to natural inert substances and we shall not pollute henceforth an environment by poisonous substances (сущностями).

Is it expensive? Yes, but so "simple" and not so expensive, as serious waste in environment.

It is so "simple", as though we have decided to not poison our streets and public gardens by poisonous exhaust gases of automobiles.

It is so "simple", as though we have decided to not pour out toxic washing liquids into a wash-stand, to not throw them in the garbage container.

It is so simple, as though we have decided to not pour out poisonous washing solutions in a washstand and to not throw electric batteries into the container for sweeping.

It is so "simple", as though we have decided to not poison ourselves by surplus of alcohol and fat foodstuff with a bouquet of toxins of a tobacco smoke.

Even when we know, what is necessary (or what is not necessary) and what it is necessary to do, between the knowledge and behavior exists the big precipice.

Only to transfer knowledge is insufficiently!

In connection with the theme of my contribution here I have dared to interpret some of ideas which have been stated twenty years' ago on of page's of Edition of "The UNESCO Courier".

At that time Ramón Folk the president of the Spanish committee on affairs of the help to an embodiment of the program of UNESCO «the Person and biosphere» said: "To educate — it is more important, than to inform". In itself the knowledge cannot educate anyone; education should include in itself also moral values".

This problem is an actual problem also today.

Moreover, today this truth should be our key for giving up of our moral defects such as dipsomania, drugs, AIDS and, certainly, from indifference to protection of our environment.

However, I think, we should give also more attention to the requisitely holistic integration of curricula of natural scientific and humanitarian knowledge.

Such educational process with the dynamic system will cause lower entropy and new emergence of (unforeseen) properties of our worldview (weltanschauung).

Positive results of development and practice of integration of curricula of such disciplines as natural sciences, ecology, economy and technique already take place at our university.

It will promote realization of the concept “from reductionism to holism” of the United Nations’ “global education with space vision of a life”.

The revival of holistic approaches of ancient philosophers to knowledge of the Nature is today prevented by system of narrow specialization of the staff not competent of questions of natural scientific knowledge.

The reason of it is covered in historic facts of development of science and practice of the last centuries. For centuries the culture, educational system, in general all crafts are based on sectorial division of knowledge and skills.

14.2 How to proceed from specific interests of that or that area to regular interaction between different disciplines?

Certainly, a profound knowledge of one any area are extremely necessary, however problems of an environment and development any separate discipline never can solve.

I know well that this is easy to say and hard to do and make happen.

Why? The majority of establishments, the organizations and **universities now work in the style of the last century.**

And between faculties of universities there is a certain disciplinary isolation and traditional competition concerning priorities of the importance.

14.3 Here it is possible to ask: Which decision can be offered?

Unfortunately, a simple answer is not present.

In this situation the decision about the problem can only be taken in democratic and moral cooperation of political, economic and academic elite of a society with universities in preparation of young generation of the scientific and educational staff.

First of all it would be necessary to analyze university system, which is based on corporate distribution of faculties to find out and then and to excite in researchers of one area of disciplines of desire in a complex to work with researchers of other disciplines.

But where we can find a sample or, even, fruitful system analogue for realization of such idea as programs of action?

I think it is close: we can find it in the nature surrounding us.

As analog physical (natural) model of such system for interdisciplinary synergism cooperation **the flora can serve.**

For example, the plants (trees) have deep main roots and horizontal superficial roots to connect themselves with others to be stronger and to exchange juices of ground.

In a wood of the Creator of the Earth each tree raises only its fruit, but together they represent homogeneous natural association of photosynthesis, satisfying needs of all living organisms of biosphere.

In the garden (university) also everyone's plant (tree) raises the fruit and demands the gardener of the special program to water and fertilize it, but together they serve the purpose of the architect of the garden.

Let us to name conditionally the stated sketch (prototype) for the further development of real analog physical model as Plants (disciplines) in a university garden of global knowledge.

I am a supporter of designing and use of analog physical models to predict probable changes of situations of the cooperating systems.

However, work with such analog models will be fruitful, if they are quantitatively able to reflect functional changes of physical parameters of dynamics (changes) of components of concrete situations.

For example, such analog physical models, which author already has published include: “Analog physical model of forecasting of economic and ecological stability of the states in ‘a gravitational field’ of global economic market” and “Optimization model of ecological and economic characteristics in systems of industrial technologies and university curricula”.

We can separately discuss their essence.

But, we cannot coordinate the professional priorities as well as the world community cannot define (determine) the general (common) priorities of economic, social and humanitarian cooperation.

14.4 Problems of Ukraine

Ecological tragedy “Chernobyl” and its consequences are known to all and I shall not repeat it.

The wide public knows about industrial threat of ecology of that time less.

In the beginning of becoming of independence of Ukraine (1990th years) for comparative of ecological and

economic estimation of conditions of the different states (or regions) the author has suggested to use parameter (K_e) — the attitude (relation) of manufacturing of the basic kinds of production per capita in the area of territory. Results of the executed calculations for Ukraine, France and Russia have shown, that Ukraine has been badly overloaded by ecologically dangerous industrial production.

For example, compared with Russia and France respectively:

- 7) **iron ore** – almost **100** and **10** times more;
- 8) **coal** – 60 and 11 times more;
- 9) **steel** – 50 and 3 times more;
- 10) **chemical fertilizers** – 45 and 1,3 times more;
- 11) **sulphuric acid** – 21 and 1,1 times more.

Concentration of these dangerous to health of the population of manufactures in territory of Ukraine was the highest in the world.

Now I shall focus on a concrete example concerning problems of university education in the field of economy and ecology.

Ukraine during our independence has founded tens of private economic institutes and “universities” of narrow specialization with rather weak interdisciplinary system of programs with an educational and scientific component.

It satisfied narrow professionalism and mercantile interests of the founders (as economists) of such “universities”, but as we can and will be convinced, it does not match our analog model.

Gradually, step by step, also the state economic institutions of higher education abolished faculties and laboratories of natural scientific and technological disciplines.

Each time when I do a step to interdisciplinary integration, I shall come across the traditional latent resistance of colleagues.

The step “not a leg to a leg” is “not patriotic” to the professional corporation of colleagues.

Question: What is essence of the problem?

First of all: This **deep dissociation** of various areas of **knowledge**, scientific schools is a problem, and so is formation the professional education systems according to their narrow professional interests.

The peripheral interdisciplinary knowledge of ecologists and economists lies **especially in the field of natural and technological sciences**. But, today it is **still insufficient** for their creative mutual understanding and the decision making concerning complex (difficult) ecological, economic and technological problems of environmental protection.

Moreover, their egoism includes often the latent antagonism of their mutual relation.

Certainly, I do not specify these problems.

It is more than half-a-century ago that my compatriot, the outstanding researcher of environmental problems of our civilization Vladimir Vernadsky complained: “Till now historians, in general scientists of the humanities (*abm.*: so, and economists), and in a certain measure also biologists, meaningly do not consider natural laws of biosphere — that terrestrial environment where there is and only can be life”.

And it is so despite already our contemporary the Nobel winner, economist Vasil Leontijev asked the question, “... **up to what are researchers** in such adjacent areas as demography, sociology, a policy (politics), **on the one hand**, and in ecology, biology, medicine, technology and other applied physical sciences — **with another**, will refrain from expression of anxiety to that **brilliant isolation** of a science in which today **the academic economy** lives?”

Half a century has passed from Vladimir Vernadsky to Vasily Leontjev, but also today very few of us are preoccupied with and follow their appeals.

The author has investigated for several years with his colleagues the above mentioned problems of economic universities of Ukraine.

According to the theme »Concept of optimization of holistically integrated natural-science, ecological and technological disciplines in educational programs of economic universities of Ukraine« we wrote curricula and textbooks „Ecology and economy”, „Systems technologies” (from aspects of economic and environmental problems), „Modern natural sciences” and „Natural sciences and economy”.

But not quickly any positive results of researches and practice of integration of curricula of such disciplines as natural sciences, ecology, economy and techniques are realized at our university.

All this has provoked the author of this contribution to develop a functional model of optimization of characteristics of two objects: a parameter of an economic level of material (physical) satisfaction of needs of a person and a parameter of an ecological condition of her environment. The model presents graphically the combined system of the Cartesian and polar coordinates. Characteristic of material parameters and the conditions of an environment, which satisfy the public of the country or region at present time, are determined according to standard units in the Cartesian coordinates on the axis x and y .

In the accepted balanced ratio of the Cartesian system of coordinates x and y will connect to polar radius r (constant) and to a polar corner θ (variable). In computer version any changes of the parameter x as satisfaction of physical needs of a society (and all of them are connected with increasing load on environment) will be automatically reflected on y ordinate as a parameter of an environment’s ecological level. The total changes parameter of x, y system will be reflected in change of value of a polar corner θ . Connection of parameters x and y in the Cartesian system of

coordinates with a polar comer θ is expressed by the equations

$$x = \rho \cdot \cos \theta, \quad y = \rho \cdot \sin \theta, \quad \theta = \arctg x / y.$$

Similarly can be determined optimum parities of disciplines time's credits of the natural-ecological and economic (or technical) in the system block of university curricula and rational correction at their change. This graphic is visible on slide of "Theme of Report".

It so doing, we believe that such researches of programs will promote fruitful creative mutual understanding between ecologists, technologists and economists of Ukraine.

14.5 What is the way of the decision about this global problem?

Increase of the responsibility of science and education for prevention of intensification of ecological crisis – is a reliable way of service to our viability.

First of all it is necessary to reconsider paradigms of our worldview the Nature, namely: we (people) do not live independently neither does our natural environment, but we are only one of kinds the natural system and we are in functional interdependence with all other objects in nature according to its laws.

Concerning such concept the modern the term "The Person and her environment", formally dividing the person and the Nature, does not match the fact. Hence, such term and its definition should be changed.

Obviously, it will change the coming generation's perception of the Nature.

Only universities, at support of the public and the national governments, can generate scientifically-moral system of worldview of our students.

As that: "I **am in** the Nature", "I am not the owner of the nature", "I an inseparable organism of thermodynamic system of biosphere", etc.

Let us create association for research of problems of promotion of such purpose.

15. 'The Sustainable Spirit' – Bridging the Gap between Vision and Action at Universities

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Abstract :

Within the present UN Decade of Education and Sustainable Development 2005-2014, universities are confronted with the task of acting sustainably at all possible levels, i.e. at the teaching, research and administrative levels. This involves having the power to implement sustainable development within the organization itself and simultaneously, the ability to transfer this issue to wider society. In addition, there has to be an ongoing process of mutual communication between the organization's internal and external activities (i.e. external stakeholders need to be involved). All this is more a matter of 'how' than a matter of 'what'. However, talking and acting in a 'sustainable' manner entails a permanent process of awareness raising, clarification and harmonization, as well as a need to engage in appropriate qualitative and quantitative research methods in order to ensure that the programs aspired to may in fact be achieved. This paper aims to point out how the gap between vision and action concerning sustainable development at universities can be bridged in practice.

Key words: education, sustainable development, university, United Nations, systemic thinking

15.1 Introduction

Most statements or visions about the distant future reveal more about the period in which they are formed than about the future they are intended to describe. On watching the US science-fiction series *Star Trek*¹ by Gene Roddenberry, it soon becomes clear that the future depicted is more a reflection of life in the 1960s than that of the year 2265. A touch of skepticism is thus needed in that we have to ask ourselves how we can really know anything about our future. We have a multitude of facts and figures at our disposal concerning the present state of the world and can thus entertain thoughts about a vast range of future possibilities, but this must remain speculation. To quote a statement Max Neef made during his speech at the 35th IIASA Conference in Vienna [IIASA, 2007], "We all know a lot, but understand very little". So what does this mean in terms of organizing present action? What can we do now? We can use our experience to assess a present state and vaguely define an approach to some desirable future state. However, it would be extremely unwise to forget the complexity inherent in the world, and to ignore the fact that most processes are by their very nature systemic. Linear causalities are not as common as we would like. In other words, we have to act requisitely holistically and sustainably. This implies that we need to adopt a positive attitude – *a sustainable spirit* – when devising programs for the future. What needs to be done to help people identify with the concept of sustainability, to instill in them 'a spirit of love for the planet' so that all thoughts and actions become aligned towards this one goal?

15.2 'Sustainability' – the term

The terms 'sustainability' or 'sustainable development' have appeared within the last two decades and have come to occupy a central place in economics, politics, society, and education.

15.2.1 *The ambivalent usage of the term*

The principle of sustainable development aspires to achieve a durable balance between ecology, economy and society, and owes its present popularity largely to the well known definition "Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs." [Brundtland, 1987] However, the term was first used in the 18th century in the context of forestry [Carlowitz, 1713], where common ecological awareness dictated that one should not extract more wood than a forest could bear. Since then a lot of declarations, agreements, laws and general principles in the context of 'sustainable development' have appeared. Since the Brundtland report [Brundtland, 1987], right up to the United Nations Climate Change Conference in Bali in 2007 [Climate Change Conference, 2007], there have been all kinds of initiatives aiming at raising awareness and calling for the realization of more or less ecological, economical and social projects.

Today, everyday usage of the term 'sustainable' has become distorted.

The term is often used to denote specific items or situations rather than a set of relationships. From a constructivist point of view this raises difficulties since individuals experience the world (items and situations) in different ways and therefore use and produce equal terms for different contexts. Consequently, the reduction in the complexity of a term leaves enough space for fuzziness and ambiguity.

Nowadays we can identify two ‘camps’ of ‘important-word-users’: Those who use ‘sustainability’ as Gro Harlem Brundtland has suggested, and those who use the term as a loose idiomatic expression where its true implications are lost.

It is confusing to say ‘We have a sustainable traffic situation in the morning’ or ‘... our sustainability is limited up to three years’. In this case people take ‘sustainable’ as a synonym for ‘long-lasting’ or for ‘certain activities in the future’. This detracts from the true complexity of the term. Such sloppy, ambiguous usage of one of the most important words of the last two decades promotes a casual, one-dimensional perspective and does not bode well as far as the design of sustainable programs is concerned.

15.2.2 *The Sustainable Spirit – a theoretical construct?*

‘In English, German and other languages ‘sustainability’ is an abstract term. This implies that more words are needed to explain the concept than is the case when we are referring to more concrete items. This is similar to other abstract concepts such as ‘communication’, ‘love’ etc. It takes a lot more words to describe the content of an abstract term than to describe a concrete term such as ‘house’ or ‘car’.

To inspire sustainable processes we need sustainable attitudes, a fitting language and a basic gut feeling for certain processes. “There are lots of ways to communicate what we know, but few ways to communicate what we feel”. [Head, 2006]

One gains some insight into the complexity of the sense and spirit of certain terms when reading Glaserfeld [Glaserfeld, 1995] who was studying three different languages at the same time (German, French and Italian at an international Swiss school) and who became aware of what it means to submerge oneself in another language, and found that correct use of a foreign language takes far more than just using other words and another grammar.

Seen from the perspective of *sustainable spirit*, the famous quotation: “One cannot not communicate” [Watzlawick, 1967] takes on a new and interesting meaning. In the context of sustainable development this sentence means: as long as people live with a *sustainable spirit* all necessary thoughts and actions will follow.

Heinz von Förster [Pörksen, 2002] postulates that the relevance of what one says is determined by the person who notices the other’s statement. That would mean that the speaker is responsible for what he or she selects, and the recipient is responsible for what he or she construes. This is preprogrammed complexity.

Furthermore, human communication is characterized as cybernetic matter. Maturana’s theorem that all that can be said is said by an observer, was adjusted by Foerster to become all that can be said is said to an observer [von Foerster, 1993]. He thus establishes a connection between three items: the observer, the language, and the society. Two observers use the human language to design a society. This recalls the old relationship between the rooster, the hen and the egg. Nobody knows which came first and which followed, but all are needed for the others to exist.

Or let me put it like this “When you’re in love, you want to tell the world. I’ve been in love with science, so it seems the most natural thing in the world is to tell people about it” [Head, 2006].

Summing up Foerster, Glaserfeld, Maturana, Sagan and Watzlawick: Once a person is infected with *the sustainable spirit*, not only his or her thoughts and intentions but also his or her language, skills and actions tend to be aligned in a sustainable manner.

15.3 Education and communication for sustainable development

Stakeholders usually do not automatically show all the competencies needed to efficiently work towards the objective of sustainable development and further, to participate within a joint problem solving process of a team composed of experts from various disciplines and non-experts [Risopoulos, 2006]. The last decades showed that sustainable development is not easy to attain. It requires good system knowledge in combination with a distinct understanding of stakeholders’ objectives as basis for an effective sustainability education. As Edwards [Edwards, 2005] states, education is “the catalyst” for helping society to understand the dynamic nature of the interrelationship of ecological, economic and social sustainability. In order to make a system fit for sustainable development, such as e.g. a region, educational means have to be developed and implemented at all system’s levels. Based on the differences among the various stakeholder groups one should mention that the consideration of these system’s peculiarities is a prerequisite.

Traditional means of education based on a paradigm of a one-sided knowledge transfer from the teacher/expert to the student/client are not suitable anymore [Steiner and Posch, 2006]. The authors suggest that appropriate means need to be based on interdisciplinary and trans-disciplinary approaches and self-regulated learning as ingredients of a transformative learning approach.

Transformative education aim to transform current education and training systems “to satisfy ambitions of the region regarding sustainable living and livelihood” [The Global RCE Service Centre, 2007, p. 2] and further transformative education “is seen as a process of forming an ability that empowers individuals to act in ways that produce changes towards sustainable development. Such ambition requires pedagogies that are more participatory empowering and suitable for particular needs of the target group” [Fadeeva & Mochizuki, 2005, p. 35]. Education for Sustainable Development “transforms learning from passive to active, from mental processes to physical applications” [Kevany, 2004, p. 36].

The perception of sustainability and sustainability education is a bit ambivalent. Individuals’ have varying

imaginings of sustainability and of sustainability directed actions. These imaginings are the basis for their later passivity or various activity profiles. In order to inspire sustainable processes, there is a need for specific forms of communication and language which promote human behavior towards sustainability in a positive way. Hereby, a “sustainable spirit” [Risopoulos, 2005] can provide a good basis for forms of communication and language that are appropriate for sustainability education. The sustainable spirit in this context means to have the social, ecological and economical thought implicit in one’s mind and to be able to communicate this in active ways. That applies to individuals as well as to organizations and regions. Starting from a person’s implicit sustainable spirit once again “one cannot not communicate” [Watzlawick, 1967] is of outstanding importance. In terms of sustainable development that means, as long as a single person as well as complete organizations or regions think in a sustainable sense their language and communication is geared toward sustainability. Educational systems such as schools, colleges, universities, evening classes or other adult education programs can be couriers of the sustainable spirit. Above many other ways of bringing the sustainable spirit into the society, education is probably one of the most successful dissemination strategies for understanding such a complex issue like sustainable development.

(Transformative) Sustainability education can be supported by the following considerations:

- Sustainability and sustainable development show highly complex system character and cannot be comprehended by a view based on reductionism: a meta-perspective is useful for the understanding of the whole complex system and its inter-dependences, such as provided by systems thinking. As an example, in order to take this competence requirement into account, the study program “Environmental Systems Sciences” at the University of Graz included modules of systems sciences within the study program in order to enable a linkage between the various disciplines involved.

- The awareness that different stakeholder groups within trans-disciplinary change and research processes use “different languages”: sustainability education needs to provide its scholars with a flexible set of communication competences that enables them to “speak a language” that can be understood by the stakeholders to be involved. Especially inter-disciplinary teams usually have great difficulties in finding a commonly understandable language not only with respect to concerned stakeholders, but also with respect to the various scientific team members from various disciplines. As an example, for analyzing a complex regional system a scientific language and jargon is inappropriate; instead the application of system graphs, physical systems constellation, rapid prototyping, and storyboards (as typical kinds of design-based communication tools as a kind of meta-language) might provide the needed interface [Steiner, 2007]. Therefore, professional knowledge within a field is just a prerequisite, but emotional intelligence and social competences are the vehicle for the consideration and the involvement of different stakeholder groups.

- Specific competencies need to be available or built up. These encompass applied knowledge skills and attitudes for collaboration within heterogeneous teams in order to guide sustainability oriented change processes. Additionally, experiences in dealing with sustainability issues and personal and social competence are required as well. Furthermore, sustainability education calls for a synergistic use of left and right hemisphere thinking capabilities. Science and education in Western society has been mainly dominated by logical, sequential and analytical thinking. Those thinking capabilities are only of limited benefit when dealing with uncertain and unpredictable future developments; this is less a question of substitution than of extending left hemispheric thinking by right hemispheric thinking to make use of humans’ logical and creative potential. Assumption: design-based tools (as mentioned above) allow the interplay of right and left hemispheric thinking and can thus provide for flexible creativity within the needed structural framework without resulting in desultoriness.

- Educational systems very often have not been so far oriented on a dynamic and interdependent knowledge transfer based on real-world implications. Consequently they need to reconsider if their teaching staff has the competences needed for sustainability education and trans-disciplinary processes. Here, teach-the-teacher and train-the-trainer programs are to be considered as well.

All those educational means can only provide for the desired outcome, a sustainable development, when the willingness of the involved stakeholders is given to take more sustainable actions.

In order to enable an education for sustainable development, educational institutions themselves need to be sustainable [Zimmermann, 2006]. However, that does not mean education only for pupils, undergraduates and academics but also for private people, working people, employees and other stakeholders of the society. Therefore, RCEs [Mader, 2004; De Rebello, 2003] based on transformative educational means and trans-disciplinary approach can provide for the appropriate institutional framework.

15.4 Sustainability and Universities

The UN Decade of Education for Sustainable Development 2005-2014 presents all kinds of challenges for institutions and individuals. All over the world enormous educational effort is being undertaken to help institutions and individuals achieve greater sustainability.

With respect to existing and future regional and global cooperation, there is great innovative potential in the tertiary education sector. Universities – along with other traditional institutions of higher theoretical education – are places where people are supposed to be educated with regard to the implications of achieving a sustainable future. However, university curricula are certainly not changing at a pace sufficient to match the changing needs of society. What is

needed for both educational institutions and society is more information, interaction, substitution, trans-formation, etc., and last but not least, a much more comprehensive system of communication which can be used to impart new (sustainable) values.

Universities have to take up a leading role within a mutual process involving education, research and the needs of society. As institutions of higher learning, they are predestined to promote the raising of awareness with respect to achieving future sustainability. They are duty bound to teach people the implications of sustainability for ... *a common future*. The university is not a place where good ideas go to die peacefully as Carl Auer mentioned [Luhmann and Schorr 1988]; it is a big think tank, which is responsible for finding answers to big questions. There is thus a clear need for a common understanding of the term 'sustainability' within the organization itself and for a more fitting language by means of which sustainability can be both communicated and implemented.

Following the Stockholm Declaration on the Human Environment in 1972, initial effort concerning the integration of sustainability into higher education has mostly involved the so-called "Greening Campus" initiatives, which have concentrated on implementing environmental activities on university campuses. At a deeper level, sustainability issues have also been integrated into the education, research and management of universities. A shortcoming in higher educational activities (policies) to date concerns the relative lack of trans-disciplinary approach to university education, research, practical implications and applications in a real-world context. Within this context, trans-disciplinary approach implies a greater need for mutual knowledge exchange between academics and society.

In the past decade, more and more universities have become aware of the fact that they are educating future decision makers. They have therefore begun to take on the responsibility of raising awareness concerning sustainable development among their students and researchers. This has been accompanied by a number of further initiatives and declarations, e.g. (Taillores Declaration (1990), Agenda 21 (1992), CRE-COPERNICUS (1993) Charta, Ubuntu Declaration (2002)) and global initiatives (Johannesburg World Summit for Sustainable Development & Global Higher Education for Sustainability Partnership (WSSD & GHESP, 2002).

In December 2002, the UN General Assembly adopted a resolution, declaring a "United Nations Decade of Education for Sustainable Development" (UN DESD), lasting from 2005 until the end of 2014. This was intended to promote action all over the world, to initiate programs for sustainability at all levels of education and to raise awareness about sustainability among people of all ages, groups and countries.

Furthermore, in the framework of the UN DESD, the UNESCO, serving as the lead agency of the UN DESD, emphasized the establishment of "Regional Centers of Expertise – Education for Sustainable Development" (RCE). RCEs are innovative platforms designed to support the communication and development of sustainability at the interface between higher education and society. RCEs are thus intended to be driving forces for trans-disciplinary change processes. [Mader, 2004; De Rebello, 2003]

Education is one of several possible avenues for promoting a more *sustainable spirit* in society. It is comprehensive, since it encompasses all levels of society, from groups engaged in primary, secondary and tertiary education, to those engaged in vocational training programs or in schemes for life-long learning. RCEs are likely to be highly effective platforms [Steiner, Mader, Risopoulos, Zimmermann, 2008]. Employment of educational platforms in improving sustainable development requires that attention be paid to three important questions:

- What is sustainable development and what are the main aspects for a sustainable education?
- How can sustainable development – as a future strategy – be transferred to the education sector?
- What kind of role does education play in sustainable development?

Focusing on linear causalities will not help us find adequate answers to such questions. We will have to adopt more systemic paradigms, to develop ecological, economic and social values and above all to be open for different attitudes and feelings.

15.5 Identification and 'Knowledge Enrichment' of Sustainability

A clear link has to be made between a university's corporate identity and its identity as a promoter of education for sustainable development. This involves appropriate adaptation of mission statements, research plans, curricula, services, programs for future activities etc. These are important initial steps, but it is even more important to ensure that suitable communication structures are developed, and that serious attempts be made to imbue people with the correct spirit. A sustainable attitude is absolutely crucial. This involves bridging the gap between all levels of the organization, establishing appropriate links between teaching, research and administration. E-learning might be one means of providing broad dissemination of the *sustainable spirit*. Administrations should do all they can and use any means available to raise sustainability awareness throughout the organization.

One much discussed means of raising awareness and helping a conventional educational institution become more concerned with issues of social responsibility and sustainability is the implementation of an alliance between higher education institutions and regional organizations. This could mean establishing a 'Regional Center of Expertise for Sustainable Education (RCE)' as part of the university and letting it function as communicational bridge, promoting mutual knowledge transfer and raising awareness concerning sustainability values between universities and society.

The need for a trans-disciplinary approach is crucial here. On the one hand trans-disciplinary approach can be seen as a mere question of epistemics, something that allows for a specific focus in problem solving or research questions

within the field of scientific study.

On the other hand, the term can be used to breach the confines of scientific research and to refer to the process of involving agents outside the scientific field. In this sense the term refers to the process of mutual learning and knowledge transfer that takes place between educational and business institutions, between academic and non-academic, or regional stakeholders. Consequently, trans-disciplinary approach leads from science on/about society towards science for/with society, and to learning at all stakeholder levels, including students but also scientists, other experts and practitioners as well [Scholz and Marks, 2001, Steiner and Posch, 2006, Jucker, 2002]. “Trans-disciplinary approach is seen as a core element for coordinating a transition process. It provides a framework for integrating the knowledge of a wide range of experts and stakeholders. At the same time a common base of knowledge is a promising starting point for cooperation between the involved stakeholders. Integrating not only interests, but also different modes of thought, expert’s and local knowledge leads to more robust results.” [Transdisciplinary Case Study Research Group at ETH Zurich, CH, 2006].

All of this is more than mere information transfer (in the telecommunication sense), where one agent’s loss is another’s gain. Trans-disciplinary approach enriches the total amount of knowledge available for all participants concerned.

15.6 From Visions to Action: The Process of Identifying Sustainability

How can a university become a ‘sustainable university’?

The requisite form of sustainability is that which is represented not just on ‘paper’, but by real people who are integrated in the diverse decision making processes such as strategy building, value chain formation, product development, marketing, human resources, performance planning, etc. This needs to provide the background image for such a university. To be successful, it is crucial that mechanisms be made available such that people are both willing and able to identify with such an image. In addition, a number of diverse committees, workgroups etc. need to be established once overall strategies for sustainability have been devised. These serve to help in the presentation of new goals both internally and externally. Top down imposition of strategy is not likely to succeed. It is important once overall strategy has been outlined, that small groups and committees are engaged in locating and identifying possibilities for improving sustainability. Such work groups can be active at all levels of the organization, and may comprise teaching, research, and administrative groups, as well as student associations, etc. Such group activities also need to be augmented throughout the year by internal symposia, meetings etc. in order to maintain momentum towards sustainability.

15.6.1 The Task Force Sustainable University

The Task Force *Sustainable University* comprises an unlimited group of people who represent different work groups (speak for different work groups) from all levels of the university (see above). Their task is to integrate the sustainability output of the workgroups and the sustainability theme as a whole into their working environment and beyond. Furthermore, the task force is responsible for assessing and guiding ongoing and completed projects in terms of their sustainability. [University of Graz, 2005] Participants of the task force serve to inspire other people and institutions and contribute to awareness building. They help make sustainability more transparent and facilitate the development of a suitable *sustainability language* ‘in order to aid communication between their own and other workgroups. They also contribute to the development of a positive image for the whole university. Most sustainability effort within organizations concentrates on ecological aspects. This must be improved in future by integrating more of the economic and social aspects of sustainability, and by making an attempt to ensure that the linkages between all three realms are properly understood. In line with the global reporting initiative (GRI), the task force also has to submit a sustainability report.

15.6.2 Institutionalizing Sustainability

At least one member of the task force needs to accept responsibility for internal and external co-ordination, and to act as contact person for questions concerning university sustainability.

The tasks of such a co-ordinator comprise:

- Collaboration and editorial work on the sustainability report.
- Innovative activities in the field of the ‘sustainable university’ based on research and development.
- Initiation and continuation of relevant projects.
- Designing and performing of courses and lectures for the integration of sustainability issues.
- Development of trans-disciplinary programs and workshops for external stakeholders.
- Networking between different interest groups.
- Representing the university on a national and international level.
- Publication of scientific papers on the basis of autonomous and collaborative research.

Twenty years ago organizations started to appoint representatives for ecologic affairs. Nowadays, the functions of such representatives have become indispensable. In a similar vein, it is becoming more and more imperative that

universities install representatives who are responsible for sustainable activities.

15.7 Conclusion

Dealing adequately with the term 'sustainability' demands a systems-thinking approach and a substantial portion of awareness-raising with respect to identifying linkages between ecological, economic and social affairs. Cases exist, e.g. [Ecimovic et al, 2002; Ecimovic et al, 2007]. It is also essential that an appropriate form of communication or language be developed since implementation of sustainability depends on co-coordinating the activities of a diverse number of groups and on instilling them with a large dose of 'sustainability spirit'.

As far as universities are concerned, sustainable development implies that appropriate principles be integrated at all levels of the organizations and that actors become sufficiently motivated to live and work in accordance with such principles. This entails organizing across the board value transformation, primarily in teaching, but also in related social activities, administration etc. Such transformation will be of clear benefit to future decision makers.

Initial steps in this direction call for the creation of a *sustainable spirit*, and for initiatives which will encourage people to 'fall in love' with sustainability. This should prove to be a relatively easy and effective means of disseminating sustainable attitudes.

Universities are designed to be centers of learning, think tanks and institutions, which focus on solving complex problems. As such they cannot afford to ignore questions of sustainability, both internally and externally. They need to fully accept their responsibilities in this area, and thus help improve the well-being of their employees, their students and their external stakeholders.

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16. The role of trust in management: an empirical study

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Abstract:

Trust is a relatively new field of discussion in management and organizational sciences. But its importance for the work of modern organizations is huge; it presents an urgent basis for the division/co-ordination of work and formation of new ways to monitor and direct work of all organizational participants. Both division of labor and the need for (impossible) control increasingly demand trust as value/culture/ethic /norm of all organizational members. Trust must be based on members' competence to do their jobs. Trust can be assured, in an organization, by providing for professional and/or political starting points, which provide for a requisite basis, in synergy, for understanding, formation, and implementation of the contents, methodological, and values aspects of trust in how organizations or individuals behave. The paper discusses two theses. The first thesis presents our idea on the role and importance of trust in organization. The second thesis foresees that all organizational members must permanently assure the requisite trust. The paper presents results of surveys of work values in which managers and professionals from various Slovenian organizations expressed their views of trust (in general) and (selected) personal values connected with trust.

Keywords: trust, professional viewpoint of trust, political viewpoint of trust, assuring trust, survey about trust, Slovenia.

16.1 Introduction

Trust is a relatively new field of discussion in management science. But its importance for the work of modern management is huge: it presents an urgent basis for the division/co-ordination of work and formation of new ways to monitor and direct work of all organizational participants, especially participants of management (Barney, Hansen, 1997; Hatch, 1997; Nicholson, 1998; Cook, 2003; Agnes, 2004; Lorsch et al., 2005). It is also the condition for a series of process innovations, which are based on shared work and cooperation.

From the viewpoint of an organization, we can distinguish trust as a basis for the formation of the inner and outer work of the whole organization, especially management, as the most influential group of participants.

The trust in an organization provides for a basis for a plan of a more democratic and innovative work of an organization. Its role influences forming of interfunctional teams, which can exceed functional and hierarchical limitation of business in their work (Barney, Hansen, 1997; Braithwaite, Levi, 2003; Fichman, 2003; Bibb, Kourdi, 2006). On the basis of trust, the organization can form a more democratic and holistic starting points for the work and improve the relation between business units/participants.

Trust also influences connection, including the ones with organizational environment/s: it enables the synergetic and partner cooperation with all business participants (Davis et al., 2000; Hardin, 2002; Potočan, 2004; Gilbert, 2005; Potočan, 2006). E.g., quality of business depends on trust between a producer and its suppliers – when they want to work together, when they want to minimize mistakes and have a fluent production. The work of a distribution chain depends on mutual trust between the producer and its distributors. They have to share future sale trends, form sale conditions (prices, terms), and assure requisitely holistic offers for customers.

We will focus on research of possibilities and ways to assure trust in organizations. Hence, we will research: the role and importance of trust in organizations, assuring trust in them, understanding interest viewpoint of trust, and the state of trust in Slovenian organizations.

16.2 Trust in organizations

Trust is a topic in many theoretical researches and practices of organizations. They differ in used starting points, approaches and basic understanding of the content of the term trust (Misztal, 1995; Warren, Warren, 1999; Ciancunatti, Steding, 2000; Hardin, 2002; Robbins, 2002; Bracey, 2003; Salomon, Flores, 2003; Kovač, Rozman, 2006). At the same time, various researches focus on different viewpoints, levels and field of behavior and work of organizations.

According to the intention and aims, we can classify researches basically into two basic groups (Abst, 1997; Nicholson, 1998; Potočan, 2002; Alvares et al., 2003; Ward, Smith, 2003; Agnes, 2004; Potočan, 2004; Potočan et al., 2004 – 2007; Wall, Patton, 2005; Potočan, 2006):

- The central field of discussion of the first group presents trust as a value. Trust as a value (this is credibility) is reflected e.g. in expectation of honesty, frankness, sincerity and respect. Its reaching and constant assuring is based on high ethic standards, e.g. suitable mutual relations, agreements about co-working and disclosure of information, and assurance of shared activity.
- Trust as competence is reflected in ability of reliable behavior and working. Trust as ability is reflected e.g. in reliability of behavior and work. To perform a certain work, each single participant must trust, that his/her partner will

perform his/her part of obligation and responsibility very well. Trust as competence of behaving and working is based on requisitely holistic and up-dated competence of all participants, which cooperate directly or indirectly in or between organizations.

The organization can define the role and the meaning of trust on the basis of cognition and definition of characteristics (Warren, Warren, 1999; Room, 2002; Potočan et al., 2004 – 2007; Lorsch et al., 2005; Bibb, Kourdi, 2006; Mulej, 2006) of:

- Key relations in an organization and between it and its surrounding e.g. between the owners, managers and employees, or the organization and its business partners, or the organization and other partners in its environment;
- Level of trust, that the environment has toward organization behavior and work (Do its partners find the organization trustworthy? Can the organization work as to assure trust of others?);
- Level of organization's trust toward its environment (for example: Are its partners worth trusting? Do its partners work properly and assure trust into cooperation with them? Etc).

Irrespective of the way of understanding and dealing with trust, the organization faces the dilemma, how to assure the requisite level of trust.

16.3 Assuring trust in an organization

It makes sense to assure trust and research it from the professional and political viewpoints: they define to a high extent the characteristics and possible level of reaching trust in organizations (Fichman, 2003; Braithwaite, Levi, 2003; Cook, 2003; Potočan, 2004; Gilbert, 2005; Wall, Patton, 2005; Mulej, 2006; Potočan, 2006).

The professional viewpoint is focused on the needs for a requisitely holistic definition of the basic characteristics of trust from the viewpoint of content and methodology.

The political viewpoint arises from the need for understanding of interests, which reflect the starting points and for assurance of conditions for implementation of trust in the organization.

Both viewpoints depend on the requisitely holistic values, knowledge, experience, interests and norms as well as circumstances (Misztal, 1995; Ciancunatti, Steding, 2000; Potočan, 2002; Robbins, 2002; Salomon, Flores, 2003; Ward, Smith, 2003; Potočan, 2006; Potočan, Mulej, 2007).

The professional viewpoint is focused less on the values and more on knowledge, experiences, and professional rather than subjective interests. Therefore it is relatively objective and rational, if the participants act ethically and professionally. The political viewpoint depends on various kinds, types and forms of interests in the discussed period (for example short-term, long-term). This makes trust relatively subjective and irrational, often quite one-sided rather than requisitely holistic.

How can we explain the role and meaning of values/culture/ethic/norms (VCEN) by assuring trust? They can be defined with an interval, which is on one hand limited with totally professionally defined VCEN and on the other hand with totally politically defined VCEN. Each single VCEN can be positioned with a defined point on this interval – according to their specific characteristics.

When we deal with trust in an organization from the political point of view, we mean different (formal and informal) institutions (associations, groups, etc.), which try to form and expend the viewpoints for their cooperation based on trust (e.g. UNO, UNESCO, BASD, WCED, etc.) (Potočan, 2002; Mulej, 2006; Potočan, Mulej, 2007). Professional approach is supported (formally and informally) by agreements (e.g. principle, rules, codex, documents), which are formed by different organizations, associations, and groups (such as interest-based association, professional associations, international professional organizations, groups of single people, etc.) (Potočan, 2002; Mulej, 2006; Potočan, Mulej, 2007).

Numerous examples of good practices of organizations in various organizational fields, such as units, processes, or process steps, show, that the basis of trust can be reached by considering the interdependence of persons/organizations involved (Potočan et al., 2004 – 2007; Mulej, 2006; Potočan, 2006):

- Political viewpoints of trust should assure considering interests in the frame of trust related to the topic and its background; if involvees feel independent, they try to dominate and impose their own partial interests as the only ones to deserve attention; if they feel dependent, they will allow the others to dominate; if they feel interdependent, they will negotiate for an acceptable synergy; and

- Professional viewpoints define content- and methodological starting points for practice of trust on all levels and in all fields of the organization and assure the synergy of organizational interests; if professionals differ from each other and know that they are complementary and therefore need each other, trust each other better than the ones feeling no need for each other, or even having a bad experience.

Examples from various organizations prove, that for assuring trust, it is reasonable to use a combination of: 1) political viewpoint, which should assure considering wider interests in trust enforcement, and 2) professional viewpoint, which assures content- and methodological starting points for the practice of trust on all organizational levels and field.

16.4 Understanding interests and trust in organizations

What does requisitely holistic understanding, forming and practice of trust of interest in an organization mean? When we try to define interests, which are important for the formation of trust, we face numerous questions such as: definition

of bases for definition of interests, content of interests, and definition of methods for a requisitely holistic dealing with interests.

The organization can be defined as an interest-based cooperation of participants aiming to reach their chosen objectives. Hence the behavior and working of the organization must be investigated from the viewpoint of interests, which represent a possible partial viewpoint of trust (Misztal, 1995; Barney, Hansen, 1997; Hersey, Blanchard, Johnson, 2000; Ward, Smith, 2003; Robbins, 2002; Gilbert, 2005; Mulej, 2006; Potočan, 2006).

The background of interests and capacity to trust can be detected on the basis of cognition of (potential) partners' starting points made of needs, knowledge, values, and possibilities (Mulej, 1987; Mulej et al., 2000; Potočan, 2006; Potočan, Mulej, 2007).

The definition of viewpoints to discuss interests is based on a system of preferential needs, abilities and values, as well as knowledge of persons in the given organization. The latter tries to satisfy all preferential needs of its inner and outer environment; it has been established for them.

On the other hand, interests depend on (no matter what is the field and/or level of their discussion): 1) individual values, which stem from individual needs, knowledge and possibilities, 2) culture, which represents values of a social group, 3) ethics, which defines the moral acceptability of dealing in a social group and 4) norms, which direct, what ethic is right or wrong there.

The stated facts uncover new questions, connected with the discussion of trust, such as: 1) professional needs and interests, 2) interests of the whole and interests of its parts, 3) shared and dividing interests, 4) politically defined and professionally planned interests.

The definition of the content of interests connected with trust, demands understanding the role and importance of interests in an organization, such as: 1) single viewpoint of discussion and 2) one of the synergy viewpoints of the whole discussion. With that, we opened the basic question of discussion about the relation between the whole entity and its single parts. The level of suitability, holism and precision of the definition of content is namely importantly dependent on cognition of characteristics of this relation. Shared interests namely unite, specific interests separate in groups, and individual interest divide.

The third group of open questions refers to methodology needed for the discussion of the role and importance of interests by trust. In this frame, we have to assure: 1) requisitely holistic methodology and 2) requisitely holistic base of interest characteristics – this means requisitely holistic system of political and professional interests of organizational participants, which have influence on this organization.

16.5 Implementation of interest-based trust in organizations

Discussion about implementation of interest-based trust in organizations is very complicated and complex; it exceeds boundaries of this work. We are limiting our-selves to measuring and evaluation of the level of trust and to suggestions for its improvement.

Researchers deal with many questions while defining the level of trust and its measuring and evaluation (Abs, 1997; Barney, Hansen, 1997; Hatch, 1997; Nicholson, 1998; Alvares, Barney and Bosse, 2003; Agnes, 2004; Potočan et al., 2004 – 2007; Lorsch, Berlowitz, Zelleke, 2005; Wall, Patton, 2005; Mulej, 2006; Potočan, 2006).

What ever is the viewpoint and the level of trust under discussion, measuring and evaluation of elements which influence trust is important. This supposes the usage of a methodology, which suitably enables measuring and evaluation of all objective and subjective elements of trust (factors, relations, and synergies) – for possible approaches, see (Cancer, Mulej, 2006; Cancer, 2006). But in theory and practice, there are not enough solutions to fulfill all indicated requirements.

We better focus on realistic possible solutions in the business practice (Potočan, 2004; Potočan et al., 2004 – 2007; Mulej, 2006; Potočan, 2006). A large group of researchers measures and evaluates “the synthetic criteria of trust”, such as the level of trust in an organization (total, professional and interest trust). The problem of such approach is the further analysis of the gained results. It is very hard to define all elements objectively.

Researchers in the other group try to learn and investigate “analytic (single) criteria of trust”, e.g. honesty, frankness, sincerity etc. in the frame of understanding trust as a value – for the comparison of both groups, see (Cancer, 2006). For further discussion, the partial results need definition from the viewpoint of shared criteria defining the trust's role and meaning.

Both approaches face additional open problems: the subjective character of most criteria of trust, as “soft organizational factors”. The objectiveness of trust depends on the researcher/s' subjective evaluation (understanding and discussion) of the role and the meaning of the analytic elements of trust in the frame of synthetic elements of trust.

To improve its level of trust, the organization can use many different solutions. On the basis of understanding the discussed topic it can try to influence elements of trust and their synergy directly (trust in the whole and/or single viewpoints, factors, inner relations, outer relations, synergy etc.) or indirectly (influence of the environment, relation to the environment, synergy of the environment etc.).

On the basis of the requisitely holistic understanding of trust one can suppose, that its factors, relations and synergies can be improved. But one must consider, that characteristics of the process of forming new solutions depend on understanding trust, the chosen approach to its discussion and manner of discussion. At the same time trust in an

organization depends on its specific organizational characteristics of behaving and working (activity, size, business situation and trends, work force, governors, managers, obsolescence or modernity, etc.)

Hence, the general solutions, which would suit a larger field of organizational working - for different types, kinds, and forms of organizations - can not be formed.

The known solutions how to improve trust can be placed in two groups – on the basis of its characteristics. The first group of solutions suggests basic elements of trust for different organizations. It aims to form generally valid bases of solutions.

Many of them are valid, but their content is mostly too general (not thorough and adjusted to different organizational forms). Organizations use them especially as a starting point to develop specific solutions by considering behavior and working of the organization at stake.

The second group of solutions suggests more analytical oriented solutions for the improvement of the single elements of trust. Considered are specificities of trust in behaving and working of single kinds, types or forms of the organization. This can be an advantage and disadvantage at the same time. It helps equal organizations; then they are adjusted and suitable for use. At the same time it is a disadvantage, because trust's specificities limit its area of use to one organization (different kind, types and forms of organizations).

Thinking about the possible solving of the problem of the level of trust and its possible solutions, it can be concluded with a general statement, that most known solutions for improvement of trust can be placed on the interval, which is limited by two extremes:

- Absolutely general solutions, which can be used as improvement of general elements of trust. That's why they are less usable for solving concrete problems of trust in a single organization.

- Completely specific solutions, which are narrowly usable and very specific in content. Hence they are suitable for solving problems in similar or equal organizations, but not in general.

Both theory and practice face open questions about the ways of forming solutions, which would be requisitely both specific and general to assure the needed solving of the problem and to improve trust in organizations.

We must also take into account, that organizations face two important challenges, at least: How to satisfy needs of demanding (potential) customers, requiring the best possible/total quality of supplies; and: How to make their own business requisitely innovative to make customers happier with it than with competitor's supplies – and gain trust therefore.

The above cognitions about trust are also basic for our research of the role and importance of trust in Slovenian organizations.

16.6 Research about the state of trust in Slovenian organizations

At the University of Maribor, Faculty of Economics and Business we conducted a survey of work values and behaviors, in which 300 participants from several business fields all over Slovenia took part in 2004 (the first observation period), and in 2006 (the second observation period), as well (Potočan et al., 2004 – 2007). It has the following basis:

- Its sample included organizations working throughout Slovenia; this provided for a relatively representative regional coverage, since it included data about organizations from all regions of Slovenia.
- The sample coincided with the size structure of Slovenian organizations, including large, medium-sized, and the small ones; however, micro organizations were excluded.
- The sample corresponded to the basic-activity structure of Slovenian organizations, with a good fit to the industry-based structure of the Slovenian economy.
- It focused on detecting personal values of professionals.

Methodological related attributes of our survey were presented at several recent occasions (Cancer, Potočan, 2006; Potočan, Mulej, Cancer, 2007).

Participants were expressing their judgments about the importance of personal values by using the following intensity levels (Table 16.1):

Numeric intensity level	Verbal intensity level
-1	Opposed to the principles that guide a respondent
0	Not important
1, 2, 3, 4, 5	Important
6	Very important
7	Extremely important

Table 16.1: Intensity levels in judgments of participants

Because Kolmogorov-Smirnov and Shapiro-Wilk's tests of normality showed that empirical data are not normally distributed, the nonparametric Mann-Whitney U test was used to compare the medians of the expressed judgments about the importance of personal values in 2004 and in 2006. When comparing the means of the expressed judgments about the importance of personal values in 2004 and in 2006, the independent samples *t*-test was used, as well. In all cases, results showed that similar final conclusions can be drawn regarding the independent samples *t*-test and Mann-

Whitney U test.

In terms of content the survey is divided in two parts. First, participants evaluated the importance of 56 personal values in their lives. In the second part, participants gave their personal opinion about 38 working and 25 organizational values. In the second part of the survey, most participants valued trust as the most important working and organizational value in 2004 and 2006 (see Potočan et al., 2004-2007; Potočan, Kuralt, 2007).

Such results neither enable the cognition and understanding of the basic reasons for such high estimation of value by the survey participants, nor the cognition and understanding of basic starting points for the formation of a very high level of understanding and evaluation of trust.

Hence, we will try to research the chosen personal values, which importantly influence the formation level of trust. So we chose personal values, which are important for: 1) assuring trust among the participants of an organization and 2) formation of trust among the internal and external organizational participants (this is assuring their trust toward their environment).

By dealing with trust as a value, we considered results of different studies, which tried to define what kind of series of personal values is typical for people, who value trust very highly and find it important (basic) value of their work and behavior (Abst, 1997; Nicholson, 1998; Alvares et al., 2003; Wall, Patton, 2005). In this frame frequently mentioned personal values are honesty, forgiving, environmental protection and social justice.

For the research of personal values, which importantly influence trust (as a value) among the participants, we chose two personal values: honesty and forgiving (Abst, 1997; Nicholson, 1998; Alvares et al., 2003; Wall, Patton, 2005).

Honesty can be generally defined as human quality of doing one's best (see also terms: without dissimulation, dependable, guideless, without pretensions, veracious, marked by truth, etc.). Forgiving (as toleration) can be generally defined as willing to respect others.

The obtained mean intensity levels of 'honesty' show that this personal value was very important to respondents in the observed sample ($\text{mean}_{2004} = 5.75$, $\text{median}_{2004} = 6$; $\text{mean}_{2006} = 5.62$, $\text{median}_{2006} = 6$). Comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us confirm the hypothesis that the mean intensity levels of 'honest' in 2004 and in 2006 are equal ($z = 1.227$, $p > 0.05$): Table 16.2.

	HONESTY (genuie, sincere)	
	2004	2006
Mean	5.75	5.62
Median	6.00	6.00
Std. Deviation	1.161	1.271
Mann-Whitney U	42523	
Z	-1.227 ($p = 0.220^*$)	

*stands for a two-tailed p -value

Table 16.2: Honesty in judgments of participants

The obtained mean intensity levels of 'forgiving' show that this personal value was important to respondents in the observed sample ($\text{mean}_{2004} = 4.28$, $\text{median}_{2004} = 4$; $\text{mean}_{2006} = 4.45$, $\text{median}_{2006} = 5$). Although the median for 2006 is higher then in 2004, by independent samples Mann-Whitney U test we can not reject the hypothesis that the mean intensity levels of 'forgiving' in 2004 and in 2006 are equal ($z = 1.377$, $p > 0.05$): Table 16.3.

	FORGIVING (willing to pardon others)	
	2004	2006
Mean	4.28	4.45
Median	4.00	5.00
Std. Deviation	1.415	1.344
Mann-Whitney U	42153	
Z	-1.377 ($p = 0.169^*$)	

*stands for a two-tailed p -value

Table 16.3: Forgiving in judgments of participants

To investigate personal values, which importantly influence trust among the interior and exterior participants (in the framework of dealing with trust as a value) we chose personal values protection of environment and social justice (Abst, 1997; Nicholson, 1998; Alvares et al., 2003; Wall, Patton, 2005). Environmental protection can be generally defined as a requisitely holistic human care to preserve nature (or natural environment in the wider meaning): Table 16.4.

	ENVIRONMENTAL PROTECTION (preserving nature)	
	2004	2006
Mean	4.68	4.60
Median	5.00	5.00
Std. Deviation	1.525	1.670
Mann-Whitney U	44520.5	
Z	-0.231 ($p = 0.817^*$)	

*stands for a two-tailed p -value

Table 16.4: Environmental protection in judgment of participants

The obtained mean intensity levels of ‘environmental protection’ show that this personal value was important to the respondents in the observed sample (mean₂₀₀₄ = 4.68, median₂₀₀₄ = 5; mean₂₀₀₆ = 4.60, median₂₀₀₆ = 5). Comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us confirm the hypothesis that the mean intensity levels of ‘environmental protection’ in 2004 and in 2006 are equal ($z = 0.231$, $p > 0.05$).

Social justice can be defined as fair and proper administration of laws conforming to the natural law that all persons (irrespective of ethnic origin, gender, possessions, race, religion, etc.) are to be treated equally and without prejudice (see also civil rights): Table 16.5.

	SOCIAL JUSTICE (correcting injustice, care for the weak)	
	2004	2006
Mean	5.12	5.02
Median	5.00	5.00
Std. Deviation	1.545	1.498
Mann-Whitney U	42964.5	
Z	-0.987 ($p = 0.324^*$)	

*stands for a two-tailed p -value

Table 16.5: Social justice in judgment of participants

The obtained mean intensity levels of ‘social justice’ show that this personal value was important to the respondents in the observed sample (mean₂₀₀₄ = 5.12, median₂₀₀₄ = 5; mean₂₀₀₆ = 5.02, median₂₀₀₆ = 5). Comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us confirm the hypothesis that the mean intensity levels of ‘social justice’ in 2004 and in 2006 are equal ($z = 0.987$, $p > 0.05$).

By dealing with trust as ability of reliable behavior and working, we arose from the results of various researches, who tried to define the series of personal values, which is typical of people, who are able and credible by their work (Misztal, 1995; Warren, Warren, 1999; Ciancunatti, Steding, 2000; Hardin, 2002; Robbins, 2002; Bracey, 2003; Salomon, Flores, 2003; etc.). In this frame the most important personal values are responsibility, self-discipline, broad-mindedness, and equality.

To investigate the personal values, which importantly influence trust among organizational participants (in the frame of discussion of trust as ability), we chose personal values, responsibility and self-discipline.

Responsibility can be generally defined as ability of organizational participants to work and behave (it is usually defined as total dependability and reliability): Table 16.6. Self-discipline can be generally defined as correction or regulation of oneself for the sake of improvement: Table 16.7.

	RESPONSIBILITY (dependable, reliable)	
	2004	2006
Mean	5.55	5.44
Median	6.00	6.00
Std. Deviation	1.032	1.296
Mann-Whitney U	44211.5	
Z	-0.398 ($p = 0.691^*$)	

*stands for a two-tailed p -value

Table 16.6: Responsibility in judgment of participants

The obtained mean intensity levels of ‘responsibility’ show that this personal value was very important to respondents in the observed sample (mean₂₀₀₄ = 5.55, median₂₀₀₄ = 6; mean₂₀₀₆ = 5.44, median₂₀₀₆ = 6). Comparing the

mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us confirm the hypothesis that the mean intensity levels of ‘responsibility’ in 2004 and in 2006 are equal ($z = 0.398$, $p > 0.05$).

	SELF-DISCIPLINE (correction, regulation)	
	2004	2006
Mean	5.17	5.19
Median	5.00	5.00
Std. Deviation	1.368	1.249
Mann-Whitney U	44606.5	
Z	-0.192 ($p = 0.848^*$)	

*stands for a two-tailed p -value

Table 16.7: Self-discipline in judgment of participants

The obtained mean intensity levels of ‘self-discipline’ show that this personal value was important to respondents in the observed sample ($\text{mean}_{2004} = 5.17$, $\text{median}_{2004} = 5$; $\text{mean}_{2006} = 5.19$, $\text{median}_{2006} = 5$). Comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us confirm the hypothesis that the mean intensity levels of ‘self-discipline’ in 2004 and in 2006 are equal ($z = 0.192$, $p > 0.05$).

For the discussion of the personal values, which have important influence on trust among the internal and external organizational participants (in discussion of trust as ability) we chose the personal values broad-mindedness and equality (Misztal, 1995; Warren, Warren, 1999; Ciancunatti, Steding, 2000; Hardin, 2002; Robbins, 2002; Bracey, 2003; Salomon, Flores, 2003; etc.).

Broad-minded ones can be generally defined as tolerant of varied views and/or inclined to condone minor departures from conventional behavior (e.g. tolerant of different ideas and beliefs): Table 16.8.

Equality can be generally defined as an equal opportunity (of working and behavior) for all: Table 16.9.

The obtained mean intensity levels of ‘broad-mindedness’ shows that this personal value was important to the respondents in the observed sample ($\text{mean}_{2004} = 4.63$, $\text{median}_{2004} = 5$; $\text{mean}_{2006} = 4.94$, $\text{median}_{2006} = 5$). Although the median is 5 in 2004 and in 2006, it can be concluded that the importance level increased in 2006; namely, comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-Whitney U test can let us report that the importance of ‘broad-mindedness’ was significantly higher to the respondents in 2006 than in 2004 ($z = 14.616$, $p < 0.01$, one-tailed).

	BROAD-MINDEDNESS (tolerance for different ideas and beliefs)	
	2004	2006
Mean	4.63	4.94
Median	5.00	5.00
Std. Deviation	1.421	1.276
Mann-Whitney U	39846	
Z	-2.506 ($p = 0.012^*$)	

*stands for a two-tailed p -value

Table 16.8: Broad-mindedness in judgment of participants

	EQUALITY (equal opportunity for all)	
	2004	2006
Mean	5.17	5.18
Median	6.00	6.00
Std. Deviation	1.670	1.559
Mann-Whitney U	44359	
Z	-0.314 ($p = 0.753^*$)	

*stands for a two-tailed p -value

Table 16.9: Equality in judgment of participants

The obtained mean intensity levels of ‘equality’ show that this personal value was very important to the respondents in the observed sample ($\text{mean}_{2004} = 5.17$, $\text{median}_{2004} = 6$; $\text{mean}_{2006} = 5.18$, $\text{median}_{2006} = 6$). Comparing the mean values of the numeric intensity levels of this personal value in 2004 and in 2006 by independent samples Mann-

Whitney U test can let us confirm the hypothesis that the mean intensity levels of 'equality' in 2004 and in 2006 are equal ($z = 0.314$, $p > 0.05$).

Further detailed discussion of the manner (for example direct or indirect) and the extent of the influence of single personal values of trust (as a synthetic criterion) exceed the chosen frames of our discussion.

16.7 Conclusions

Trust is becoming a central field of the modern theoretical discussions about organizational behavior and work. Understanding trust as a value enables organizations to form a more democratic and holistic starting points for work and improvement of relations between working people.

A higher level of trust is assured by considering requisitely holistically the professional and political viewpoints, as the requisite base for permanent changing of work and behavior on the basis of cooperation on process innovations.

An important viewpoint of dealing with trust is the assurance of interest, tackling the definition of bases for interests, understanding different viewpoints of interest and forming suitable methodology for their discussion/formation.

Results of our survey about the state of trust in the Slovenian companies confirm the hypothesis, that organizational participants are aware of the importance and role of trust in their business. Most participants marked in the survey trust as the most important working and organizational value

Further discussion on values and trust depends on the solution of methodological and content dilemmas and open questions, which we presented in the chapter 16.5.

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17. Requisitely holistic understanding of interest viewpoints concerning sustainable development

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Abstract

Over the recent decades, business conditions have changed dramatically. In the modern global economy, everybody will have to be very competitive and hence innovative. Therefore, most humans, economies, and businesses must innovate, including our understanding of economics. The new challenges require a thorough innovation of work, including a holistic consideration and implementation of sustainable development. We try to requisitely holistically research the interests that are defined and distributed concerning sustainable development in business systems. The paper discusses two theses. The first thesis presents the idea of the role and the importance of corporate environmental responsibility, corporate ethical responsibility and corporate social responsibility in modern business. The second thesis foresees that managers must improve the understanding and using of the above mentioned responsibilities for the creation (and implementation) of holistic enterprise ethics in their work. The contribution presents the results of the surveys of work values and behaviors in which managers and professionals from different business systems all over Slovenia and Croatia expressed their views on the business activities that describe corporate environmental responsibility, corporate ethical responsibility and corporate social responsibility. We offer some new suggestions why (and how) managers need to use the above mentioned responsibilities for the creation and implementation of appropriate holistic enterprise ethics.

Keywords: *Corporate environmental responsibility, corporate ethics, corporate social responsibility, sustainable development, sustainable enterprise.*

17.1 Introduction

Sustainable development (SD) expresses the interdependence of economy, and natural environment as the two essential bases of life. The interdependence between the professional and political bases is a precondition of interests for a requisitely holistic SD as a concept for all current and future activities on all levels and in all areas in humankind's existence. In this paper, we try to requisitely holistically research the interests that are defined and distributed in the fields of SD in business systems (BSs).

The idea of synergy of sustainability and economic development into SD reveals systemic thinking in its own right. A new, more holistic / systemic understanding of needs and requirements (e.g. economic, environmental, social) of the future development has been largely encouraged by the fact that the centuries of one-sidedness have endangered economic activity and life of humankind (See: Ećimović et al., 2002; Potočan, 2002; Potočan, 2005; Potočan, 2006; Potočan, Mulej, 2007). The future existence and quality of life of humankind crucially depend on the concept of SD.

The UN has been a central political body to sponsor the professional discussion about SD since the 1970s. UN also works on the necessary political harmonization of the dealing with SD (See: BASD, 2001; BASD, 2002; Edwards, Orr, 2005; EU, 2005). SD (its basis and policies) and its economic attributes are basically defined in the following documents: the Rio Declaration, Agenda 21, and Local Agenda 21 (See: WCED, 1987; UN, 1992; ICLEI, 2000; UNESCO, 2000; Steffen, 2006; Walker, 2006). They tacitly require requisite holism of thinking, decision making and action.

BSs can attain the requisitely holistic SD if their starting points, principles etc. are requisitely long-term and broad-minded. The functioning of the world as a whole and of its parts (including BSs), is based on similar global / universal laws of living. On their basis, we can form specific goals for the specific levels of operation, which must be harmonized with SD and related general goals. In this way, BSs support their own existences well enough if they can carry out their business operations: purposefully, respectably, ethically, and innovatively (See: Ulrich, 1997; Hawken et al., 1999; Korten, 1999; Singer, 1999; Magretta, 2000; Jennings, 2005; Potočan, 2006; Shaw, 2007). BSs must, therefore, achieve "adequate" economic results within a requisitely holistic care and responsibility for their natural and social environment (See: Mulej, Kajzer, 1998; Mulej, 2000; Potočan, 2002; Potočan, Mulej, 2003; Čančer, 2002; Čančer, 2004; Čančer, Mulej, 2006; Lafollette, 2005; Lovell, Fisher, 2005; Potočan, 2006; Potočan, Mulej, 2007).

The contribution presents results of surveys of work values and behaviors, in which managers and professionals from several business fields all over Slovenia and Croatia expressed their views on the business activities that describe corporate environmental responsibility (CER), corporate ethical responsibility (CETHR) and corporate social responsibility (CSOCR), as respondents perceive them. On the basis of their expressed judgments about the acceptability of the CER's, CETHR's and CSOCR's activities we measured the perception of importance of the observed activities that were recognized to contribute to better environmental performance, to express the creation and use of appropriate ethics in enterprises, and the activities that were recognized as main contributors to corporate social responsibility in enterprises.

17.2 Requisitely Holistic Understanding of Interest Viewpoints of SD

When we try to requisitely holistically define interests that matter for SD activities (including in BSs), we face many issues such as: definition of the bases of interests, of their contents, and of methods for a requisitely holistic dealing with them (See: Mulej, Potočan, 2000; Potočan, 2002; Potočan, 2005; Čančer, Mulej, 2006; Potočan, 2006; Potočan, Mulej, 2007).

The definition of the bases for dealing with interest starts from the dialectical systems made of needs, possibilities, knowledge (on both contents and methods) and values of decision makers. A BS, namely, tries to satisfy all those preferential needs of both its internal and the (selected crucial) external environments, which have caused it to be established. Interests, what ever is their area or the level of their consideration, depend most crucially on:

- 1 Individual values (which are interdependent with knowledge, needs, and possibilities);
- 2 Culture (synergy of values in a social group and/or its social super-system);
- 3 Ethics (culture dividing right from wrong in a social group); and
- 4 Norms (ethics prescribing the right and the wrong in such a social group).

This fact reveals several dilemmas in dealing with SD, including relations between: the preferential needs and the interests, the interests of the entire entity and of its single parts, the shared and unshared interests, and the politically conceived and professionally as well as requisitely holistically grounded interests.

The definition of contents of interests concerning SD tackles understanding of the role and weight of SD in BSs' operation as well of the ones of the single viewpoints of SD and of their synergies in BSs' operation. The level of suitability, holism, and precision of the definition of contents of SD and interest of a BS concerning SD depend on the above starting points. Hopefully, interests are defined requisitely holistically, since most interests can be defined subjectively and qualitatively, rather than objectively and quantitatively.

The next group of open issues tackles a suitable methodology of dealing with interests. Within the research of interests, one should establish: a requisitely holistic research methodology and a requisitely holistic description of characteristics of interests (e.g. requisitely holistic systems of political interests of all important actors inside and outside BSs) and requisitely holistic systems of professional interests of all important subjects of business (which directly or indirectly influence business).

We try to requisitely holistically research the interests with both a requisitely holistic methodological and a partial contents-related research. We define interests on the basis of our requisitely holistic investigation into interests, which include the institutional, functional, and factorial aspects as a dialectical system. These interests are defined and distributed in the fields of SD and used for the creation of a requisitely holistic system of research of interests concerning SD in BS.

17.3 Understanding of Interest Viewpoints Concerning SD in Business: Case of Slovenia and Croatia

17.3.1 Research Data and Data Analysis

At the University of Maribor, Faculty of Economics and Business we conducted a survey of work values and behaviors, in which 300 participants from several business fields all over Slovenia took part in three observation periods: 2004, 2005 and 2006. A similar survey was conducted at the University of Zagreb's Faculty of Economics and Business, in which 298 participants from Croatia took part in the first observation period. We investigated the participants' views on the business activities that describe corporate environmental responsibility (CER), corporate ethical responsibility (CETHR) and corporate social responsibility (CSOCR), as respondents perceive them.

The survey questionnaire about CER, CETHR and CSOCR in Slovenian and Croatian organizations has the following bases:

- 1 To detect general values that are typical (and important) for the participants' views on the business activities we used a questionnaire and the findings of the public opinion survey in Slovenia. These surveys have been conducted yearly since 1968 by a team from the Faculty of social sciences, University of Ljubljana, led by professor Tos (Tos, 1997; Tos, 1999; Tos, 2004; Tos, Muller, 2005);
- 2 To detect values that are typical (and important) concerning CER, CETHR and CSOCR of employees in organizations we used the questionnaire and findings of the International investigation "A survey of work related issues". This investigation has been annually conducted for the past 12 years and has, since 2003, included 25 countries from around the world; we covered Slovenia. It is conducted by The University Fellows International Research Consortium, led by professor Ralston from the University of Oklahoma, M.F. Price College of Business, at Norman (Egri et al., 2004; Ralston et al., 2006).

Methodological and contents related attributes of our survey were presented at several recent occasions (Čančer, 2005; Mulej, 2005; Potočan, 2005; Čančer, Mulej, 2006; Mulej et al. 2006; Potočan, 2006).

On the basis of their expressed judgments about the acceptability of the CER's activities we measured the perception of importance of the observed activities that were recognized to contribute to better environmental performance. They are presented in Table 17.1.

Symbol	Description
CER1	To prevent environmental degradation caused by the pollution and depletion of natural resources.
CER2	To adopt formal programs to minimize the harmful impact of organizational activities on the environment.
CER3	To minimize the environmental impact of all organizational activities.
CER4	To devote resources to environmental protection even when economic profits are threatened.
CER5	To voluntarily exceed government environmental regulations.
CER6	To pay the full financial cost of using energy and natural resources.
CER7	To assume total financial responsibility for environmental pollution caused by business activities.
CER8	To ignore environmental issues when jobs are at stake.
CER9	To only proceed with activities for which environmental risks can be fully evaluated and controlled.

Table 17.1: Business activities that describe corporate environmental responsibility

We used the respondents' answers that indicate the degree to which they agreed or disagreed that the business should engage in the activity described (1 – strongly agree, 3 – moderately agree, 5 – neutral, 7 – moderately disagree, 9 – strongly disagree) to define the numerical scale intensity levels of perception of the corporate environmental responsibility: 1 – strongly irresponsible, 3 – moderately irresponsible, 5 – neutral, 7 – moderately responsible, 9 – strongly responsible. For each respondent, the perception of importance of an observed activity that contributes to better environmental performance (CER1, CER2, CER3, CER4, CER5, CER6, CER7, CER9; for a description see Table 1) has been obtained by giving the belonging number of points to each scale intensity level (e.g. the scale intensity level 1 was given 9 points, and the scale intensity level 9 was given 1 point). The importance of an observed activity that contributes to environmental degradation (CER8; for description see Table 1), however, has been obtained by giving higher belonging number of points to a higher scale intensity level (e.g. the scale intensity level 9 was given 9 points, and the scale intensity level 1 was given 1 point).

Furthermore, we measured the perception of importance of the activities that were recognized to express the creation and use of appropriate ethics in enterprises. They are presented in Table 17.2.

Symbol	Description
CETHR1	To avoid compromising ethical standards in order to achieve corporate goals.
CETHR2	To give priority to ethical principles over economic benefits.
CETHR3	To be committed to well-defined ethical principles.
CETHR4	To agree that ethical responsibilities may negatively affect economic performance.

Table 17.2: Business activities that describe corporate ethical responsibility

Understanding the role of corporate ethical responsibility as a factor of SD, we defined the numerical scale intensity levels of perception of the corporate ethical responsibility (CETHR), of the intensity levels of the importance of the observed activities that contribute to better ethical performance (CETHR2, CETHR3; see the description in Table 17.2) and of those that contribute to ethical degradation in business (CETHR1, CETHR4; see the description in Table 17.2) in the same way as for CER.

We also measured the importance of the activities that were recognized as main contributors to corporate social responsibility in enterprises. They are presented in Table 17.3.

Considering social imperative as one of the main aspects of sustainable enterprise (Potočan et al., 2004, 2005, 2006; Potočan, Mulej, 2007), we defined the numerical scale of intensity levels of perception of the corporate social responsibility, of the importance of the observed activities that contribute to better quality of life (CSOCR1, CSOCR2, CSOCR4, CSOCR5; see the description in Table 17.3) and of the one that contributes to social degradation in business (CSOCR3; see the description in Table 17.3) in the same way as for CER.

Symbol	Description
CSOCR1	To allocate some of their resources to philanthropic activities.
CSOCR2	To contribute actively to the welfare of our community.
CSOCR3	To bring down their labor costs to a strict minimum.
CSOCR4	To help solve social problems.
CSOCR5	To play a role in our society that goes beyond the mere generation of profits.

Table 17.3: Business activities that describe corporate social responsibility

We consider that the corporate environmental, ethical and social perceived responsibilities depend upon participants' personal characteristics: age, gender, education (highest level completed), current position (non-supervisory staff, first, middle and upper level manager), size of company (less than 100 employees, 100 to 1000 employees, more than 1000 employees), and industry in which company is located (agriculture, mining, forestry and fishing; construction; manufacturing; transportation, communication and utilities are defined as high environmental

impact industries; other industries are wholesale and retail trade; finance, insurance and real estate; services; public administration; health care). Our hypotheses regarding participants' personal characteristics and CER, CETHR and CSOCR are as follow:

- 1 H1: Younger participants attribute higher importance to CER, CETHR and CSOCR than older participants.
- 2 H2: Female participants attribute higher importance to CER, CETHR and CSOCR than male participants.
- 3 H3: More highly educated participants attribute higher importance to CER, CETHR and CSOCR than participants with lower education level.
- 4 H4: Participants in higher organization position levels attribute higher importance to CER, CETHR and CSOCR than participants at lower levels in their organizations.
- 5 H5: Participants in larger organizations attribute higher importance to CER, CETHR and CSOCR than participants in smaller organizations.
- 6 H6: Participants in high environmental impact industries attribute higher importance to CER, CETHR and CSOCR than participants in other industries.

Our hypothesis about CER, CETHR and CSOCR is as follows:

- 7 H7: Participants, who attribute higher importance to CER, attribute higher importance to CETHR, and CSOCR, as well.

17.3.2 Research Findings

Figure 17.1 presents mean values of the activities reflecting the perception of corporate environmental responsibility in Slovenia, and the ones in Croatia are in Figure 17.2.

The obtained mean CER's intensity levels (in Slovenia, mean = 6.65, median = 7; in Croatia, mean = 6.6, median = 7) show moderate perceived corporate environmental responsibility in both countries. Studying the mean importance of the activities for which participants believe that businesses should consider them to improve environmental performance (see Figures 17.1 and 17.2) can let us report that the mean of their judgments to:

- 1) Prevention of environmental degradation caused by the pollution and depletion of natural resources shows moderate to strong corporate environmental responsibility in both countries;
- 2) Adopting of formal programs to minimize the harmful impact of organizational activities on the environment shows moderate to strong corporate environmental responsibility in both countries;
- 3) Minimizing of the environmental impact of all organizational activities shows moderate corporate environmental responsibility in both countries;
- 4) Devoting resources to environmental protection even when economic profits are threatened shows neutral to moderate corporate environmental responsibility in both countries;
- 5) Voluntary exceeding of government environmental regulations shows moderate corporate environmental responsibility in Slovenia, but moderate corporate environmental irresponsibility in Croatia;
- 6) Paying the full financial cost of using energy and natural resources shows moderate to strong corporate environmental responsibility in both countries;
- 7) Assuming the total financial responsibility for environmental pollution caused by business activities shows moderate corporate environmental responsibility in both countries;
- 8) Ignoring the environmental issues, when jobs are at stake, shows moderate to strong corporate environmental responsibility in both countries. Since such ignorance does not lead to environmental improvement, these results mean that participants moderately to strongly disagree with this activity;
- 9) Proceeding with activities only for which environmental risks can be fully evaluated and controlled shows neutral to moderate corporate environmental responsibility in Slovenia, and moderate corporate environmental responsibility in Croatia.

Although the results of the nonparametric independent samples' Mann-Whitney U test and Wilcoxon rank-sum test (see Table 17.4) can let us report that there is no significant difference between the obtained mean CER's intensity levels in Slovenia and Croatia ($p > 0.05$), comparing the numeric intensity levels of the CER activities in Slovenia and Croatia by the same tests can let us report that there are significant differences between the perceived importance of the following activities:

- 1 Adopting formal programs to minimize the harmful impact of organizational activities on the environment, minimizing the environmental impact of all organizational activities, devoting resources to environmental protection even when economic profits are threatened, ignoring environmental issues when jobs are at stake, and proceeding only with activities for which environmental risks can be fully evaluated and controlled are significantly less important ($p < 0.05$) to the respondents in Slovenia than to the respondents in Croatia, whereas
- 2 Voluntarily exceeding government environmental regulations is significantly more important ($p < 0.05$) to the respondents in Slovenia than to their colleagues in Croatia.

Mean values of the activities reflecting the perception of corporate ethical responsibility in Slovenia are presented in Figure 17.3, and the ones in Croatia are presented in Figure 17.4.

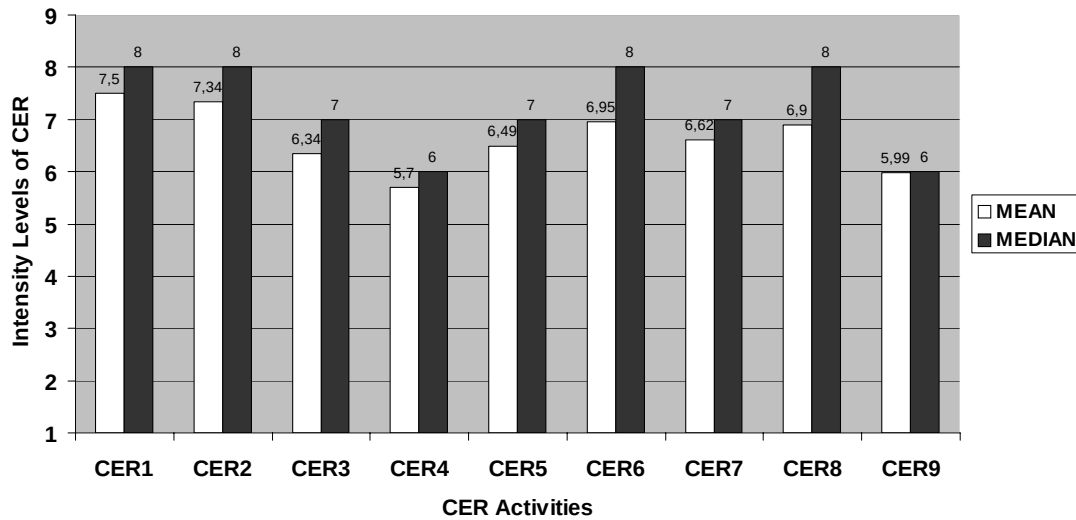


Figure 17.1: Mean values of the activities reflecting the perception of corporate environmental responsibility in Slovenia.

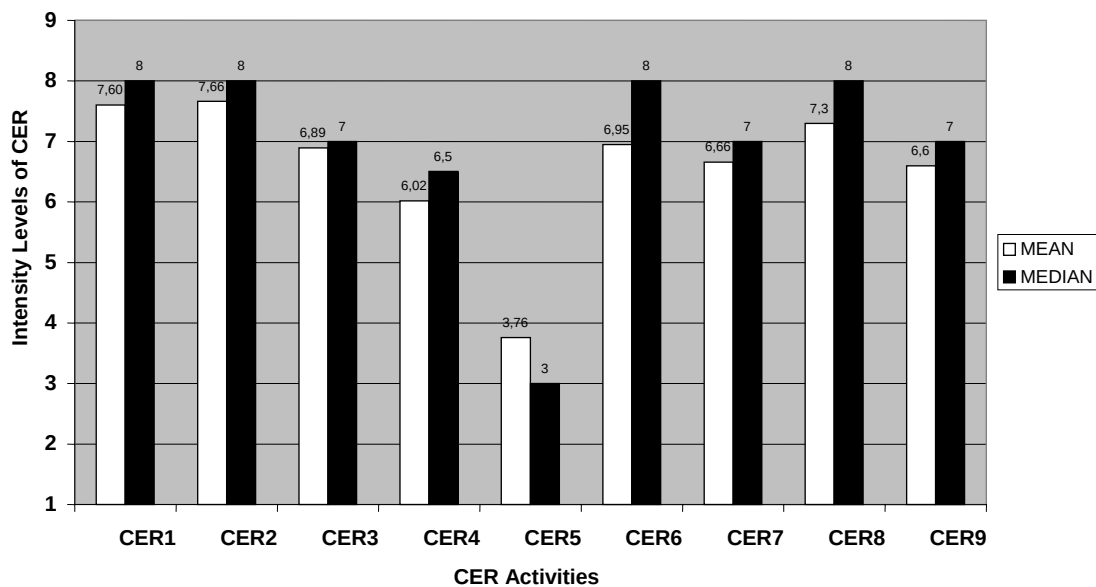


Figure 17.2: Mean values of the activities reflecting the perception of corporate environmental responsibility in Croatia

	Mann-Whitney U	Wilcoxon W	Z	Assymp. Sig. (2-tailed)
CER1	43322.0	88472.0	-0.610	0.542
CER2	40362.0	85512.0	-2.128	0.033
CER3	37411.0	82561.0	-3.510	0.000
CER4	40563.0	85713.0	-1.982	0.047
CER5	17470.0	61723.5	-12.961	0.000
CER6	43946.5	89096.5	-0.292	0.770
CER7	43830.0	88980.0	-0.347	0.728
CER8	40447.5	85597.5	-2.082	0.037
CER9	36345.0	81495.0	-3.889	0.000
MEAN	42945.0	87496.0	-0.831	0.406
MEDIAN	41559.5	86709.5	-1.526	0.127

Table 17.4: Outputs of the tests of the differences between the perceived importance of the CER activities in Slovenia and Croatia

The obtained mean CETHR's intensity levels show *neutral* perceived corporate ethical responsibility from the point of view of sustainable development in both countries (in Slovenia, mean = 4.73, median = 5; in Croatia, mean = 5.33, median = 5). Studying the mean importance of the activities for which participants in the observed samples believe that businesses should consider them to improve ethical responsibility from the sustainable point of view (see Figures 17.3 and 17.4) can let us report that the mean of their judgments about:

- 1 Avoiding compromising ethical standards in order to achieve corporate goals shows moderate corporate ethical irresponsibility in both countries;
- 2 Giving priority to ethical principles over economic benefits shows neutral to moderate corporate ethical responsibility in Slovenia, and moderate corporate ethical responsibility in Croatia;
- 3 Being committed to well-defined ethical principles shows neutral corporate ethical responsibility in Slovenia, and moderate corporate ethical responsibility in Croatia; and
- 4 Confirming that ethical responsibilities may negatively affect economic performance shows neutral corporate ethical responsibility in both countries.

The results of the above mentioned nonparametric tests (see Table 17.5) can let us report that the obtained mean CETHR's intensity level is significantly lower in Slovenia than in Croatia ($p < 0.05$). Comparing the numeric intensity levels of the CETHR activities in Slovenia and Croatia by the same tests can let us report that:

- 1 Avoiding compromising ethical standards in order to achieve corporate goals, giving priority to ethical principles over economic benefits, and being committed to well-defined ethical principles are significantly less important ($p < 0.05$) to the respondents in Slovenia than to their colleagues in Croatia, whereas
- 2 The agreement that ethical responsibilities may negatively affect economic performance is significantly more important ($p < 0.05$) to the respondents in Slovenia than to those in Croatia.

Mean values of the activities reflecting the perception of corporate social responsibility in Slovenia are in Figure 17.5, and the ones in Croatia are presented in Figure 17.6.

Furthermore, the obtained mean CSOCR's intensity levels show *moderate* perceived corporate social responsibility from the point of view of SD in both countries (in Slovenia, mean = 6.44, median = 7; in Croatia, mean = 6.1, median = 7). Studying the mean importance of the activities for which participants in the observed sample believe that businesses should consider them to improve corporate social responsibility from the sustainable point of view (see Figures 17.5 and 17.6) can let us report that the mean of their affection to:

- 3 Allocating some of their resources to philanthropic activities shows moderate corporate social responsibility in Slovenia, and neutral to moderate corporate social responsibility in Croatia;
- 4 Contributing actively to the welfare of our community shows moderate corporate social responsibility in Slovenia, and even moderate to strong social responsibility in Croatia;
- 5 Bringing down their labor costs to a strict minimum shows neutral corporate social responsibility in Slovenia, but moderate irresponsibility to neutral responsibility in Croatia;
- 6 Helping solve social problems shows moderate corporate social responsibility in both countries; and
- 7 Playing a role in our society that goes beyond the mere generation of profits shows moderate corporate social responsibility in both countries, as well.

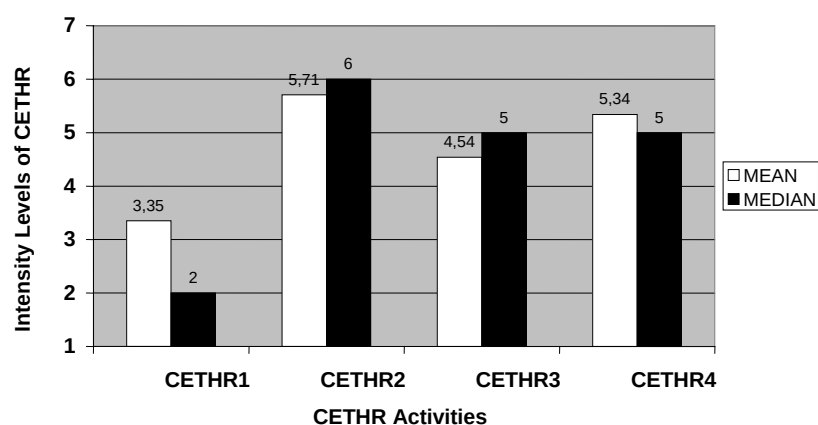


Figure 17.3: Mean values of the activities reflecting the perception of corporate ethical responsibility in Slovenia

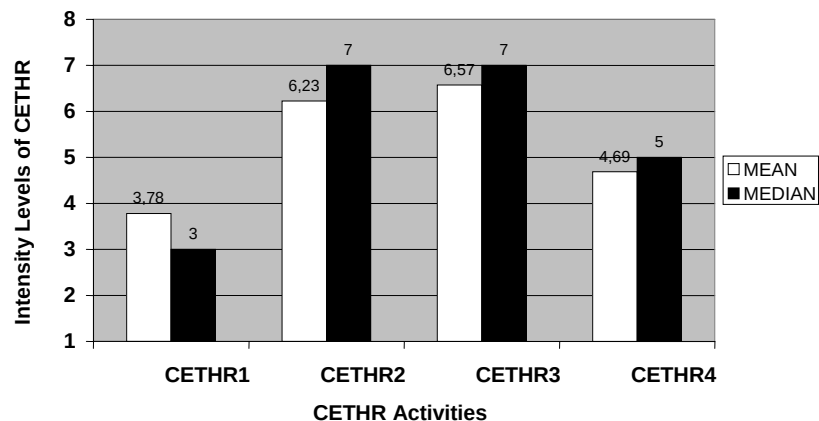


Figure 17.4: Mean values of the activities reflecting the perception of corporate ethical responsibility in Croatia.

	Mann-Whitney U	Wilcoxon W	Z	Assymp. Sig. (2-tailed)
CETHR1	38201.5	83351.5	-2.799	0.005
CETHR2	38120.5	83270.5	-3.093	0.002
CETHR3	21400.5	66550.5	-11.144	0.000
CETHR4	37234.5	81785.5	-3.575	0.000
MEAN	29868.5	75018.5	-7.044	0.000
MEDIAN	30034.5	75184.5	-7.019	0.000

Table 17.5: Outputs of the tests of the differences between the perceived importance of the CETHR activities in Slovenia and Croatia

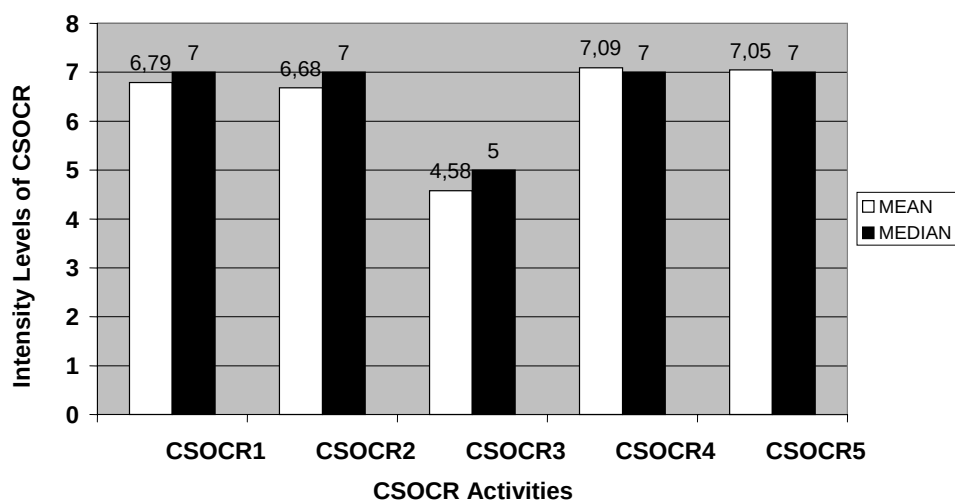


Figure 17.5: Mean values of the activities reflecting the perception of corporate social responsibility in Slovenia.

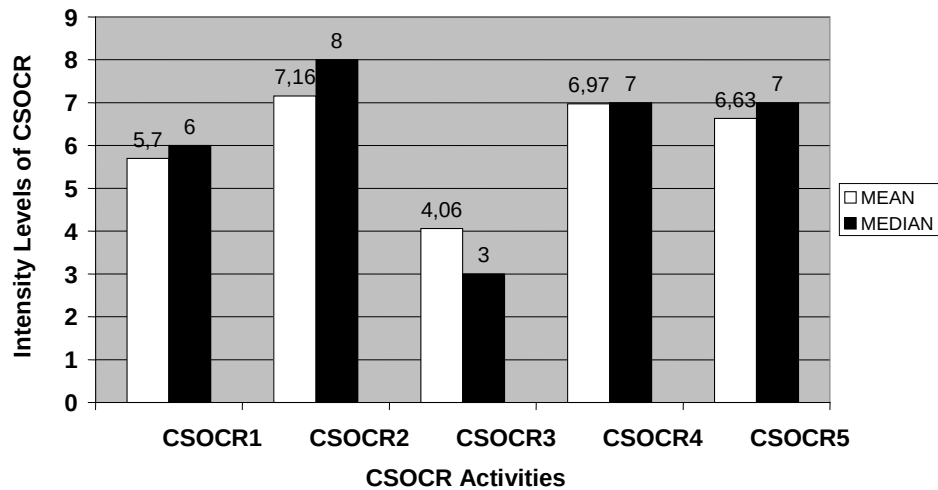


Figure 17.6: Mean values of the activities reflecting the perception of corporate social responsibility in Croatia.

	Mann-Whitney U	Wilcoxon W	Z	Assymp. Sig. (2-tailed)
CSOCR1	28470.0	71248.0	-7.488	0.000
CSOCR2	37146.5	82296.5	-3.643	0.000
CSOCR3	39181.0	83732.0	-2.637	0.008
CSOCR4	42181.5	86434.5	-1.149	0.251
CSOCR5	39293.0	83844.0	-2.606	0.009
MEAN	36333.5	80884.5	-3.967	0.000
MEDIAN	40560.0	85111.0	-2.007	0.045

Table 17.6: Outputs of the tests of the differences between the perceived importance of the CSOCR activities in Slovenia and Croatia

The results of the above mentioned nonparametric tests (see Table 17.6) can let us report that the obtained mean CSOCR's intensity level is significantly higher in Slovenia than in Croatia ($p < 0.05$). Comparing the numeric intensity levels of the CSOCR activities in Slovenia and Croatia by the same tests can let us report that:

- 1 Contributing actively to the welfare of our community is the only CSOCR activity that is significantly less important ($p < 0.05$) to the respondents in Slovenia than to the respondents in Croatia, whereas
- 2 Allocating some of their resources to philanthropic activities, bringing down their labor costs to a strict minimum, and playing a role in our society that goes beyond the mere generation of profits are significantly more important ($p < 0.05$) to the respondents in Slovenia than to their colleagues in Croatia.

In the chapter Research Data and Data Analysis we described our hypotheses that corporate environmental, ethical and social responsibilities depend upon participants' personal characteristics (age, gender, education, current position, size of company, industry in which company is located). Table 17.7 shows that the correlations between the mean CER and each of these personal characteristics were not significant (neither at the $p < 0.01$ level nor at the $p < 0.05$ level; 2-tailed p values are written in brackets) in Slovenia and in Croatia, respectively. Altogether, we can reject the hypothesis that personal characteristics significantly influence the perceived corporate environmental responsibility in both considered countries. However, Table 17.7 shows the weak correlation between the mean CETHR and gender in Slovenia, significant at the $p < 0.01$ level, and the weak correlation between the mean CETHR and age in Croatia, significant at the $p < 0.01$ level, as well. Similarly, there is the weak correlation between the mean CSOCR and gender in Slovenia, significant at the $p < 0.01$ level, and the weak correlation between the mean CSOCR and industry in which the company is located in Croatia, significant at the $p < 0.05$ level.

Further, we consider that participants, who attribute higher importance to CER, attribute higher importance to CETHR, and CSOCR, too (see H7). In both considered countries, this hypothesis was supported in the given positive relationships between the mean CER and the mean CETHR, and the mean CER and the mean CSOCR. Table 17.8 shows the weak correlation between the mean CER and the mean CETHR, significant at the $p < 0.01$ level in Slovenia and at the $p < 0.05$ level in Croatia, and the relatively strong correlation between the mean CER and the mean CSOCR, significant at the $p < 0.01$ level in both considered countries.

		Age	Gender	Education	Current position	Size of company	Industry
Mean CER	Slovenia	0.044 (0.449)	0.036 (0.537)	-0.078 (0.179)	0.063 (0.277)	0.022 (0.700)	0.029 (0.617)
	Croatia	0.114 (0.052)	-0.004 (0.940)	0.080 (0.172)	0.032 (0.595)	0.023 (0.704)	-0.029 (0.632)
Mean CETHR	Slovenia	0.110 (0.058)	0.154** (0.008)	0.065 (0.260)	-0.008 (0.887)	0.067 (0.249)	-0.089 (0.125)
	Croatia	0.173** (0.003)	-0.028 (0.634)	-0.070 (0.233)	0.010 (0.863)	0.062 (0.298)	0.058 (0.342)
Mean CSOCR	Slovenia	-0.032 (0.582)	0.176** (0.002)	-0.027 (0.638)	-0.063 (0.274)	-0.015 (0.795)	0.023 (0.694)
	Croatia	0.047 (0.464)	0.059 (0.355)	0.006 (0.928)	0.070 (0.279)	0.058 (0.374)	0.152* (0.019)

**Correlation is significant at the $p < 0.01$ level (2-tailed).

*Correlation is significant at the $p < 0.05$ level (2-tailed).

Table 17.7: Correlation coefficients between mean corporate environmental, ethical and social responsibility and respondents' personal characteristics

	Mean CETHR	Mean CSOCR
Mean CER Slovenia	0.209** (0.000)	0.541** (0.000)
Croatia	0.134* (0.021)	0.392** (0.000)

**Correlation is significant at the $p < 0.01$ level (2-tailed).

*Correlation is significant at the $p < 0.05$ level (2-tailed).

Table 17.8: Correlation coefficients between the means of corporate environmental, ethical and social responsibilities

17.4 Conclusions

The study of the presented research results about CER, CETHR and CSOCR in Slovenian and Croatian companies enables the following cognitions.

On one hand, the performed comparisons enable us to conclude that the opinions and viewpoints of the respondents in Slovene and Croatian companies are similar according to the basic understanding (and considering) the role and importance of CER, CETHR and CSOCR in business. We can prove this with the fact that the companies in both states are working in expressive global working frames, which demand from them a higher consideration of CER, CETHR and CSOCR. At the same time we have to consider that:

- 1) The companies' target markets, together with the customers' demand for a suitable organizations' behavior are very similar in both states;
- 2) In principle, the European Union (EU) legislation that regulates the work in the fields of CER, CETHR and CSOCR is used in both states; and
- 3) The levels of knowledge about the role and importance of CER, CETHR and CSOCR in Slovenian and Croatian companies are similar.

On the other hand, the research results of the surveys about CER, CETHR and CSOCR in Slovene and Croatian companies show some differences. The basic reasons for their appearance are as follows:

- 1) In the period from 1991 till 2005, Slovenia had a stricter legislation regarding CER, CETHR and CSOCR than Croatia, which consecutively contributed to the understanding of these topics in Slovene companies;
- 2) Croatia has less defined (and limited) conditions for companies' performance regarding CER, CETHR and CSOCR (from the institutional aspect) because of:
 - 1 specific developmental circumstances in the past 15 years (e.g. harder developmental conditions, more foreign investments caused high customers' needs),
 - 2 different economic structure (e.g. higher part of the companies are included in the primary and in the secondary sector).

Differences are mainly the results of the development in the period between 1991 and 2000. After the year 2000 (when Slovenia started to approximate – and join – the EU, and Croatia started to approximate the EU, too), the starting points and the conditions in companies regarding CER, CETHR and CSOCR started to become equal.

However, the presented results show that managers and professionals in Slovenia and Croatia should improve their perceptions of corporate environmental and social responsibilities, and especially of corporate ethical responsibility from the viewpoint of SD.

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18. Stakeholder management for CSR: the Heissenberger case as an Austrian CSR initiative for dealing with poverty in South America

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Abstract:

Today's society is facing tremendous challenges with regard to sustainable development. Considering the world as an interdependent system of various ecosystems and cultures, social responsibility becomes a prerequisite for sustainable development with stakeholder related process design as a core issue. Although stakeholder related considerations are receiving increasing attention within development scenarios and in particular within innovation processes, the actual management of stakeholders' identification and phase specific involvement has not been covered sufficiently, especially with regard to sustainable innovation. This paper deals with how stakeholder-related problem solving processes can contribute not only to more successful strategies against poverty, but also to sustainable innovation. Based on a discussion of the characteristics different types of stakeholders, their possible roles, and their involvement within the problem solving process are discussed based on a systems thinking perspective. An Austrian CSR initiative for dealing with the poverty in South America's agriculture, the Heissenberger case, will illustrate how stakeholder related actions can synergistically contribute to social equity and economic advantages as well.

Keywords: stakeholder management, CSR, stakeholder communication, creativity, sustainable innovation

18.1 Introduction

Talking about change in today's society, a special focus can be put on organizations as well as on regions as their metasytem and therefore connected to individuals as well. Shorter product life cycles and an increasing development of information and communication technologies are the basis for many changes. They all form a challenge for an organization's innovation management. Hence, companies not only need innovation with regard to products or information and communication technologies, but also innovation in thinking and acting – innovation as new social procedures requires a new management of communication– especially of the creation of stakeholder communication. However, as regards change at different societal levels which are supportive of innovation, an important focus is on the issue: how fit is the communication system and how fit the system's used language between the concerned stakeholders?

Stakeholder management, innovation, and sustainable development have all become topics worthy of considerable attention, both in the literature as well as in practice. This article sums up some of the most recent findings in stakeholder management (Steiner, 2008) and focuses on questions such as: How can fitting stakeholder communication be applied within CSR and for a more effective stakeholder management generally? How can stakeholders be better identified and understood? What are fitting forms of stakeholder communication? How can stakeholders be integrated in the problem solving process? What strategies can be taken to develop innovative ways to build up stakeholder based CSR initiatives. Finally, how can stakeholder management be integrated in CSR initiatives such as in the case of South America's agriculture?

There is a strong need for deeper inquiry into the social processes relevant for the generation of innovation and for specific consideration of incorporated stakeholders. Or as Scholl states, "[...] as a major factor among others associated with failure, past research has identified an overemphasis on technical validity and functionality at the expense of the social and institutional process side in change projects" (Scholl, 2004, p. 277). Not even the integration of users' perspectives, to name but one specific party of interest, is unproblematic: According to the Harvard Business Review's

breakthrough ideas for 2007, with regard to innovation we are now facing a paradigm shift from producer-centered innovation to user-centered innovation (von Hippel, 2007), and this calls for a reorientation in the way innovation is done: According to von Hippel (2007, p. 28), 70% to 80% of new product development fails “not for lack of advanced technology but because of a failure to understand users’ needs.” Innovation that contributes to sustainable development from an economic, ecological, and social point of view and more over from a systemic point of view will be considered in the following as sustainable innovation. Innovation plays a two-fold role for sustainable development: innovation with regard to sustainability can both be a supporting means for attaining sustainability but innovation can itself be considered sustainable.

The complexity of sustainable innovation becomes even more complex with regard to the negative effects that, in addition to specific positive effects, usually accompany the generation of innovation (Brown and Frame, 2004; Steiner, 2008): Generally, it is necessary to differentiate between those stakeholders and subsystems which are generally better off as a result of the innovation and those which are or might be made worse off. Innovation not only entails the development of new and more appropriate solutions, but also – to some degree – the destruction of former solutions (Schumpeter, 1980). These former solutions stand in close relation to the people affected. It is thus necessary to generate awareness of these diverse effects on the different stakeholder groups and not merely make decisions based on a majority principle. Where possible, decision making needs to be based on intense communication and interaction in order to attain consensus. Extensive stakeholder analysis is thus a necessary prerequisite. Critical questions need to be asked concerning the primary and secondary effects of the innovation and the possible destruction of former applications. What might the roles of these stakeholders for sustainable innovation be and what use might be made of their creative potential? Clearly, sustainable innovation must take both the positive and negative effects into consideration. Realistically, from a systems thinking perspective the objective behind sustainable innovation cannot be the attainment of an across the board improvement. Instead it is primarily about the creation of actionable alternatives based on the awareness of the effects of an innovation over its life-cycle, not only on those stakeholders involved, but also on those affected and on their possible involvement within the collaborative processes, including any relevant impact on non-human systems.

18.2 Stakeholder Communication

Generally speaking, adapting Freeman’s famous organizations-based stakeholder definition (Freeman, 1984, pp. 31-46) for a broader range of systems (such as organizations, but also including groups on a sublevel and also networks and regions on a metalevel), a stakeholder is any individual or group that is directly or indirectly affected by a certain system or that can (creatively) affect the system (Steiner, 2008). With respect to system boundaries, stakeholders encompass both, the internal and external, as well as the affected and unaffected parties. In the context of corporations, employees, users, non-users (people who might so far have been non-users, but who might be potential users of the future), and investors, are all considered to be crucial business stakeholders (Post *et al.*, 2002), a perspective that can also be applied to systems, such as regions. Typical examples of potential parties – internal and external, or affected and unaffected – can be employees, business owners, management, investors, entrepreneurs, competitors, suppliers, customers, joint venture partners, networks, land owners, public authorities, local populations (including the subgroups youth, working population, and retirees or elderly), special interest groups, local, regional, and national governments as well as the respective administrative bodies.

From a constructivist point of view communication has to be discussed as a cognitive process of the human being and implies the skills of one’s perception, memorizing, connecting and networking, remembering, active steering of action, willingness, unwillingness, appreciation, refusal and active learning. The potential for all these skills can be understood as the basis of individual human communication. There is a tendency to take the human verbal communication within an organization as well as outside with external stakeholders for granted, and to underestimate its effects on many levels and fields. The question is which interactive human communication is suitable for complex business systems such as innovative organizations. To be innovative - briefly speaking - means to be in a permanent state of change and problem solving. Very often it is not so much a question of the causal principle, if – then (e.g. if we introduce a new machine, then we will make more profit), it is more a matter of how everything is connected, or rather, how everything fits together (e.g. how can persons in middle management transfer new ideas from top management to product developers? What language do they use to make themselves and others understandable and vice versa? What can be done to consider the wishes of employees and customers by the leadership). In most organizations there are traditionally “top down instructions” (e.g. from top manager to employees) either verbal or through medium such as written documents, e-mails, instant messaging and others. Very often there is a block in the flow of information and people often do not know about higher objectives and what they are really working for. This leads to a lack of identification and motivation with one’s work and subsequently with the whole organization and further more.

At the end of the 1960s Watzlawick *et al.* (Watzlawick and Beavin and Jackson, 1967) declared that “one cannot not communicate”. This is still valid. Hence, any action– even when it seems to be no action – is communication and is an expression which can be interpreted. Within each situation of communication there is a ‘level of content’ (information, dates, facts etc.) and a ‘level of relationship’ (memories, emotions, body language etc.). Hence on the level of content information messages are transferred and on the level of relation the actual communication how the

information is taken occurs. A further distinction is made between ‘digital communication’ (refers to verbal language), ‘analogue communication’ (refers to body language and objects), ‘symmetrical communication’ (refers to equal positions and behavior) and ‘complementary communication’ (refers to unequal positions and behavior). In the situation of a face-to-face conversation between two or more people it is certainly helpful to know how ‘good communication’ can work by bearing in mind that the analog body language is as important as the verbal digital language. Both have to be congruent so that the speaker appears authentic. The more complex the framework is, the more it is important what kind of language one uses and what words one chooses.

However, what if there different cultures come across? What about the content – which can be considered as easier when dealing with figures and facts. However, what about the level of relationship, when one party of stakeholders interprets one and the same content different to other party? The human communication at this point has to turn into a whole system of relationship which requires a systemic view and behavior of both sides the company’s leadership and the concerned stakeholders. What can be done to build up a systemic world view? On the side of the company’s leadership there has to be undertaken an ongoing, iterative process of awareness building. This can be done e.g. by delegated responsibilities, advanced commitment, strengthening of personal development.

18.3 Stakeholder Management

Whereas stakeholder related developments usually consider the integration of stakeholder interests without actually involving the stakeholders in the problem solving process (something that is especially true for external stakeholders), it is the aim of the present contribution to extend this perspective. The involvement of affected stakeholders in particular, may not only lead to stakeholders who are more satisfied but above all it may lead to better solutions by incorporating valuable creative potential from those places where the development affects people and their environments most. Especially with regard to its social implications, stakeholder management can significantly contribute to sustainable innovation.

Stakeholder management is not an end in itself but is usually embedded within a whole (creative) problem solving process consisting of a phase-like innovation process. It is thus the interplay with other process subsystems and phases – such as the problem related, objective related, or alternative related phases preceding the progressing working or innovation process – that needs special attention for stakeholder management (Steiner, 2008, 2006, 2005). In that way, stakeholder management can also become a crucial means for overcoming progress resistant cultures as described by Harrison and Huntington (2000) by taking the impact of different value systems and attitudes of various stakeholders into account.

18.3.1 Collaboration Characteristics

Stakeholder management consists of the “identification”, “analysis”, and “classification” of stakeholders and the phasing of the stakeholders’ involvement within the collaborative process as part of the “action plan” (see Figure 18.1). The relation among stakeholders is less likely to be characterized by one-off transactions but instead by interactions based on continuity as well as on collaboration and the ability to deal with potential conflicts (Post *et al.*, 2002). Nevertheless, these interactions differ according to the specific role a stakeholder has to take within the collaboration process, the stakeholder’s competences, and the competences attached to the role.

Further, effective stakeholder management needs to assure that stakeholder’s competences are congruent with the competences attached to the role within the collaboration process. Incongruencies within the collaboration process will unavoidably result in lower effectiveness, with either the stakeholder being overstrained or under challenged by the role she/he has to play within the collaboration. This potentially harmful influence is not an end in itself but can spill over to the whole group and lead to a negative group climate (Steiner, 2005).

Stakeholder-based problem solving implies a need for collaboration among the people involved within the innovation process and for simultaneous awareness of the underlying heterogeneity of stakeholders. Consequently, collaborative problem solving processes based on adequate stakeholder management become crucial.



Figure 18.1: The stakeholder management model

Depending on their potential role, stakeholders might be either actively involved within the innovation process or merely affected by the innovation process (in most recent stakeholder literature instead of “affected” the term

“passively involved” is often used, for example by Achterkamp and Vos (2007). This division is important since being actively involved also implies process ownership and responsibility for the action taken. Hence, involved stakeholders will probably show higher motivation. Consequently, within stakeholder management, the decision to provide opportunities for active participation to those only previously passively involved, can be highly significant in terms of its impact on the quality of sustainable innovation. Further, in order to ensure that all collaborating participants enjoy a sufficiently well-equipped knowledge base (appropriate for dealing with complex real-world problems), the provision of appropriate information systems able to support collaborative problem solving becomes an integral element of sound decision making in stakeholder involvement. In this respect, the implementation of structured collaborative information systems such as that proposed by O’Sullivan *et al.* (2007) for university-based research might prove helpful.

18.3.2 Phasing within Stakeholder Management

Not only different projects call for different stakeholder involvement within the collaboration processes, but also the various phases of the collaboration process call for the involvement of different stakeholders. Effective stakeholder management must be capable of exhibiting considerable flexibility with respect to the project- and phase-related needs within the single phases of a collaboration process and with regard to specific projects. Consequently, in order to handle those requirements within a real-world context, effective stakeholder management calls for an understandable project vision, appropriate leadership, and understandable language. Here, project vision is not equal to, but needs to be complementary to, the meta-vision of the organization, network, or region, and needs to be established and maintained by senior management (e.g. Shimizu and Hitt, 2004). In such a setting, appropriate stakeholder management strongly influences the process of the creation of a shared vision among the problem-solving agents and other stakeholders.

In order to handle the complex issue of stakeholder management a phase-like scheme of the various phases of identification, analysis, classification of stakeholders and their roles within the collaboration process, as expressed in the action plan, is further extended by asking the relevant questions for each phase (see Table 18.1). The meta-objectives of the whole collaboration process or even of the whole organization or region are part of stakeholder management and exert considerable influence within it.

The following schema is intended to be a source of guidance to those in charge of stakeholder management (based on organizational or regional collaboration) and on the accompanying decision processes (see Table 18.1). Here, the single phases of identification, analysis, classification of stakeholders, and action plan not only depend on the underlying meta-objectives (such as the vision and the general policy of the organization or of the region) but also need to be related to reflexive feedback loops. The same is also true for the single steps within the phases. Consequently, the linearity of cause and effect can no longer be assumed, and a more roughly structured and flexibly applied process may provide better for the guidance needed in successfully handling stakeholder management within collaborative work on complex real-world problems.

The stakeholder management scheme introduced in this paper is to provide for higher sensitivity among those stakeholders affected as well as among those who are in the role of affecting others. Furthermore, it shows that throughout the collaborative process of sustainable innovation, relative roles need to be considered as something flexible. An individual or a group might at one phase of the project find itself to be in the role of an affected party (a secondary stakeholder), but at another phase find itself to be a involved party (= a primary stakeholder). By building awareness of such mechanisms stakeholders not only become more involved, but simultaneously need to show responsibility for their actions, and this in turn, further supports mutual learning among all collaborators.

Task	Question
Pre-check: consistency with meta-objectives	
Check project and organization (region) related requirements?	•1 What is the general vision and policy of the organization or of the region responsible for the project? •2 What are the characteristics of the underlying project? •3 What are the basic objectives and shared goals within the project (i.e. Lee-Kelley and Blackman, 2005)? •4 How is the stakeholder management embedded within the overall project (including interaction with relevant subsystems of the project)? •5 How may a tentative work team and leadership structure be set up?
I. Identification	
1. Pre-screening for system experts	•6 Who are the people with special knowledge about the stakeholder system? •7 Who are the salient stakeholders (=people with strong influence on others)? •8 Should they be integrated in screening for the relevant stakeholder parties?
2. Identification of stakeholders	•9 Who is directly or indirectly affected by the project or system? •10 Who can affect the project (system)? •11 What does the basic stakeholder map look like?

II. Analysis	
3. Determining stakeholders' individual profiles	•12 What are the value systems, backgrounds and special interests of stakeholders? •13 How is the underlying problem perceived by different stakeholders? (reformulation of objective if needed) •14 What are stakeholder expectations and preferences with respect to present and future developments? •15 What might the stakeholder contribution to the overall performance within the project be?
4. Determining the modes of influence (with regard to positive and negative effects of innovation)	Based on how a person subjectively perceives how she or he is affected? •16 Who is/will be positively affected (by the innovation)? •17 Who is/will be negatively affected (by the innovation)?
III. Classification	
5. Allocation of activity profiles	Is the stakeholder actively involved or affected? •18 Who is actively involved (=primary stakeholder)? •19 Who is affected (=secondary stakeholder)? •20 Who has so far been affected without becoming actively involved but might meaningfully contribute in the future? (=potentially involved)
6. Allocation of role profiles	Is the stakeholder in the role of a •21 client, •22 decision maker, or •23 planner? (i.e. Achterkamp and Vos, 2007; Ulrich, 1987; Checkland, 1981; Churchman, 1971)
IV. Action plan	
7. Development of a stakeholder management strategy	•24 What does the comprehensive stakeholder map look like? •25 What is the underlying vision with regard to a stakeholder orientation? (involvement of internal and external stakeholders, of so far involved and affected stakeholders) •26 What are the cornerstones of the strategy?
8. Phasing role involvement	•27 What stakeholders are to be involved at what phase of the collaboration process? •28 In what manner are the single parties and individuals to be involved? •29 What might the specific roles of these stakeholders be?
9. Collaboration design	•30 How can appropriate forms of leadership be realized (i.e. also considering co-leadership)? •31 What structural and organizational means are needed for effective collaboration at every process phase? •32 How can effective and efficient group collaboration be arranged (including considerations of individual behavioral styles)? •33 What forms of (stakeholder-specific) communication are effective and appropriate? How are competing stakeholder-claims to be dealt with?
10. Provision of continuity	•34 What means need to be incorporated to promote stakeholder reflection and enable continuous process improvements? •35 How is project completion to be arranged, and what is needed to further support implementation and maturity? •36 What assurances are provided for satisfied stakeholders so as to attain their approval for potential future involvement?

Table 18.1: Guideline for stakeholder management (Steiner, 2008)

18.4 An Example of an Austrian CSR Initiative – an Outlook

For purchasing agents of raw material CSR calls for consideration not only of the origin of the commodity, but especially of the people and their problems of daily life in the production area.

The global economy is developing faster and more dynamic every year. The coffee farmers in the cultivating areas though, benefit from this development too little. In spite of inter-communicative aids and appliances such as the internet or computers, producers in South America still lack economic knowledge for the buyer market in industrial countries.

Although the costs of living for their families in South America, Africa and Asia increased drastically and even the green coffee prices at New York Stock Exchange continue to rise, the coffee farmers do not get more money for their products. In spite of the high, international demand for first-class coffee, producers do not have any benefit at all. This is due to the fact that raw material speculators – Hedge Fonds – strategically influence the international coffee market. They push up prices for raw materials despite the fact that demand and supply are stable. Furthermore the consumers in the industrial countries still search for the coffee offer which is lowest priced in the supermarkets.

These are some of the reasons why the small coffee farmer has the smallest share of the value-added process. At this position we have an unfair position for the producers. As a result the average income is around USD 1.800/year per coffee farmer. With that small income they have to pay nutrition, health, insurance, school fees and so on. Moreover the chronic malnutrition is on average 60% and the poverty rate is by 84, 7% in this area of Palanda (according to the UN). This is twice as much compared to the average poverty rate of Ecuador. Other main problems are that there is no drinking water available in some areas and no medical supply for the coffee farmers because it is too expensive for them. Very often we find massive precarious diseases, in particular among children up to 12 years (parasitosis, stomach cancer, vitamin deficiency, malnutrition, asthma). These figures underline the overall unbearable situation of the coffee farmers and their families in this area. Starting from the crop up to the sustainable preparation of green coffee everything is exhausting and hard manual labour (handwork) with partly simplest equipment and improvised conditions. The infrastructure for permanent accessible energy is missing.

Heissenberger as purchasing agent and trading firm for coffee based its CSR strategy on the following cornerstones:

- 1 Pooling of strategies and synergies in cooperation with farmers and customers
- 2 Partnership with equal rights
- 3 Readiness to enter into dialog with all stakeholders and take specific actions
- 4 Networking and know-how in the areas of cultivation
- 5 Support and motivation of the coffee farmer
- 6 Take over a part of the financial and social responsibility for the coffee farmers and their families
- 7 Fair prices – fixed prices
- 8 Long-term purchasing contracts
- 9 Quality assurance at the place of origin
- 10 Accompanying long-term eco-social development projects

From the very first beginning of the partnership between Heissenberger and the farmers, the numerous unsolved economical and human problems of the coffee farmers in Ecuador were a central challenge. So this is why Heissenberger buys coffee only from the cooperative which is in property of coffee farmers. Simultaneously to the first production in the year of 2004 the first relief project of Heissenberger in partnership with “Ja! Natürlich” was rapidly and unconventionally realized.

That is the reason why Heissenberger attaches great importance to guarantee the coffee farmers in the production areas fixed prices with long-term purchasing contracts. The company therefore aims to establish a mutually beneficial relationship with the coffee farmers. Subsequently, the farmer is able to guarantee his family social protection to some extent. Water as a resource is a major factor for the cultivation and the production of high-quality green coffee. The win-win situation of the producer can only be fair, if the buyer involves and integrates himself in the form of long-term eco-social development projects such as water for cultivation, improvement of green coffee quality, raising social standards (hygiene, quality of life...).

Some concrete examples of the Heissenberger initiative include attempts to provide 40 families with access to fresh water, the increase of income for 400 coffee farmers, and educational means for 100 mothers with regard to nutrition, health & hygiene.

The coffee farmers, who are small structured in terms of area (2 to 4 hectare coffee cultivation acreage), have aligned themselves with each other to simple co-operations. These co-operations convey know-how and the preparation of green coffee in conjunction with the cultivation of cooperative organized social projects and coverings, in the form of private funds for old-age provisions and diseases of the farmer and their families are promoted.

The following partners collaborate in the “Heissenberger-Ja! Natürlich PPP” (public private partnership):

- [ADA \(Austrian Development Agency – Republik Österreich\)](#)
- [GTZ \(Gesellschaft für technische Zusammenarbeit- Republik Deutschland\)](#)
- [Horizont 3000](#)
- [Sei So Frei \(Männervereinigung Sei So Frei Wien – Bruder und Schwester in Not\)](#)
- [Corpei \(Staatliche Kaffeeexportförderungsorganisation von Ecuador\)](#)

18.5 Conclusions and Implications for Research

The major conclusions of this paper are: CSR – especially with regard to sustainability issues – can tremendously benefit by a more intensive integration of effective stakeholder management especially with respect to progress resistant cultures. The conceptualization of stakeholder management presented here which is supportive of CSR and sustainable innovation portrays the need for sufficient identification, analysis, and classification of stakeholders and for a

comprehensive action plan. This needs to be based on the specific requirements accompanying the single phases of the collaboration process. In such a process, gaining the involvement of the various stakeholders, including those only affected without being involved, appears to be an appropriate means of incorporating additional creative potential.

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19. Affluence – cause for dangers for sustainable future – to be solved by social responsibility

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Abstract:

Affluence is the final objective of humans, and their blind alley, too, because it causes the end of ambition to work in order to have, and because it causes artificial needs to be invented and imposed. This supports profitability and employment in a short term, but ruins the natural environment of humankind beyond needs and nature's carrying capacity in the longer term, which is no longer as far away as it used to seem to be. Creativity in synergy with social responsibility seems to offer a new chance, if humans attain requisite holism of their observation, perception, thinking, emotional, and spiritual life, and action instead of one-sidedness prevailing so far. This includes innovation of criteria what is innovation rather than failure toward more/requisite holism. Official action to promote social responsibility aimed at requisite holism of humans is suggested. Otherwise, sustainable future is highly un-probable, while sustainable future is the only future left for humankind to survive.

Key words: creativity, Dialectical Systems Thinking, holism, innovation, social responsibility

19.1 The selected problem and viewpoint of consideration of it here

According to official data, 20% of humankind – the so called West and Japan and Pacific Rim Tigers – enjoy results of the end of monopolies of 1870s much more than the other 80%. They are much richer because they innovate much more, but they are not holistic enough to avoid the danger of their own blind alley, which they are causing by their abuse of Adam Smith liberal economics paradigm with 'invisible hand', the law of external economics, and preference given to short-term and narrow-minded rather than long-term and broad-minded criteria of optimum. The current crisis of the most advanced parts of the world seems to require innovation of the concept of innovation of so far. The abuses in the name of economic laws require corrections toward more holism. Social responsibility (SR) is a new name of this corrective effort aimed at making a contribution to the sustainable future as the only available future of the current humankind/civilization. Why is this thesis here, what can briefly explain it, and what can be suggested as a solution?

19.2 Huge social differences – source of the need for global/planetary ethic

Poverty is the biggest challenge to the global harmony – a conclusion of sociologists in an international conference reads (Marcuello Servos, 2006, 10). Complementary to it is data that the distribution of global richness has changed very much since times of Adam Smith, when the modern economic theory has begun its creation: then the span of richness between the big areas of civilization on the planet Earth was less than 2:1, now it is 74:1 at least (Bourg, interviewed by Sciamia, 2007, 16). The Swiss philosopher Bourg estimates that our civilization is ruining itself, because it decided to consider no limitations in no areas; this is why Bourg speaks for planetary ethic. Namely, inequalities ran out of any proportions, and cause hyper-terrorism against the privileged ones. In addition, there is a great challenge to modernize the relation of humans to their natural environment in the direction to the global ethic. This might be called a way of application of the requisite holism (RH – see Table 19.1 later) by systemic thinking, decision making and action.

19.3 Advancement leading to poverty

The too one-sided human decisions in the recent centuries caused the oversight that the technological advancement has along with beneficial also detrimental consequences. One-sided assessments call the latter side-effects, but they are often essential, in the long term, at least, such as unexpected illnesses etc. due to chemicals etc. considered beneficial (Ećimović et al, 2002, 2007; Goerner, 2008, etc.).

Data says that the growth of the richness of the Western world has been much bigger in book-keeping than in long-term real economic terms – the West only postpones rather than covers cost of preservation of its and our natural environment (Božičnik, 2007). The former so-called socialistic/communistic countries of the Soviet Bloc and Yugoslavia are no better: they were using the western approach to technology and care for nature. The economic

consequences of such short-sighted abuse of the law of external economics are estimated to be enormous (Stern, interviewed by Stein, 2007, 14-15): if humankind does not tackle climate changes very quickly and radically, they may cause humankind's cost as high as 5,500 (five thousand five hundred) billion Euros, which reaches beyond the cost of both World Wars combined; with no measures diminishing hot-bed gasses the world-wide GDP will fall for 5%, perhaps even for 20%.

The latter may be close to the entire sum of personal incomes of all in the current world. RH is unavoidable.

The huge differences and poverty that are expressed in the book-keeping data hence result from one-sidedness causing a too narrow and short-term view and resulting assessment what is essential in the current conditions.

All specialized knowledge is both beneficial and narrow, unavoidably, but none is either self-sufficient or sufficient (Metcalf, 2008; Mulej, 1974, 1975, 1976, 1979). Democracy supports holism, but it is not RH, if it is only political without inclusion of all other human relations, too. It is not real, if its practice means only an untouchable out-voting to the benefit/victory of the one-sided opinions of the power-holders instead of an equal-footed consideration of proofs and arguments from different viewpoints that are rather complementary than harmonious with their differences (Bučar, 2007, 2008).

19.4 European Union: social responsibility is a crucial objective

In preparation, passing, and realizing of decisions one succeeds, it one has attained RH. This does not depend on knowledge alone, even less so on a single profession, but an equal importance belongs to values/culture/ethics/norms (Potočan, Mulej, 2007), because they direct/control the application of knowledge. The RH of values of specialists who need each other is expressed in their ethic of interdependence (Mulej, Kajzer, 1998a, b). It expresses the feeling that specialists complete each other up with their differences in order to make the RH and therefore success attainable. Due to these differences, clear boundaries and isomorphisms are not enough: viewing the world 'through the eyes of the others extends vision' is needed (Churchman, 1993, quoted by Lopez Garza, 2008) toward the dialectical systems approach (Mulej, 1974, 1975, 1976, 1979, etc.) and resulting RH (Mulej, Kajzer, 1998a, b).

Discussion on problems of the current humankind's blind alley such as exaggerated social differences, affluence, poverty, and self-sufficient economic growth in terms of RH, makes us think of ways toward solutions. This brings us to the concept of social responsibility (SR) and to the European Union's (EU's) concepts about it.

EU is trying to become a sustainable and knowledge-based society; the concept includes for sure the SR (e.g. under the label of social cohesion). In its document (EU, 2001), EU defines corporate SR as the integration of the care for society and environment in the daily business of enterprises and their relations with stake-holders, on a voluntary basis. This is in line with EU's strategy of sustainable development that EU has passed in 2001 as well. Its messages include the crucial statement that in a longer run the economic growth, social cohesion, and environmental protection complete each other up and support each other. It stresses too, that SR-behavior reaches beyond matching the legal obligations, hence it reflects organizations' additional efforts to meet expectations of numerous/all stake-holders. EU passed also several other documents that support development of SR (EU, 2000b; EU, 2006). They only partially cover the real contemporary needs – the creativity-based society is replacing the knowledge-based one that has replaced the routine based one (Chesbrough, 2003), and the concept of sustainable future needs to replace the concept of sustainable development (Ećimović et al, 2007, 2008), for humankind to survive.

EU defined for the period until 2010 'A European Roadmap', stressing the sustainable and competitive enterprise, which considers both the short-term and long-term creation of values (Knez-Riedl, 2007b). The corporate SR can fortify the competitive position of single enterprises as well as local and regional communities, countries and EU (Knez Riedl, 2007a). We prefer no limitation of SR to companies: they are tools of influential humans who decide.

In Slovenia, too, many activities concerning SR took place in recent years, mostly in civil society. Various professional organizations and institutions include in their work programs SR contents (www.irdo.si), professionals take additional training (project CSR – Code To Smart Reality was co-financed by EU in 2006-2007), increasingly B.A., M.A., and doctoral theses about SR are created (www.nfrcsr.org). A strategy might result or be needed for all these documents with good statements to become reality.

19.5 Suggestion: strategy of promotion of social responsibility (SR)

SR is a demanding concept of promotion of a specific case of RH having to do with the beneficial rather than detrimental, long-term rather than short-term, broad-minded rather than narrow-minded human approach to other people and nature. For success many influential people should practice RH via SR. Work of a few individuals – professionals is not enough, a general social support based on a clear strategy is needed, e.g. on the (inter-)national level.

SR mission should be to promote global ethics in order to help humankind, including one-self, survive by doing good to all stakeholders (based on RH) rather than evil (based on one-sidedness), beyond the official legal obligation.

A working group with an interdisciplinary composition should prepare a draft strategy, and later on a special Agency for Promotion of SR might have to be established, e.g. in Slovenia, and in EU, etc. Its tasks should include co-ordination of country-wide or EU-wide SR-related activities in co-operation with several professionals and institutions. Thus, the following goals should/could be met (Mulej, Hrast, 2008):

1. To create a basic interdisciplinary core of researchers working on monitoring the situation concerning SR in the area

under investigation, to compare the collected findings and suggest changes in the given area.

2. To prepare legal bases for draft legislation changes, where they are needed to cover SR everywhere per areas.
3. To prepare professional, requisitely holistic bases for making up the SR program in all ministries.
4. To establish dialogue with professional associations, government bodies, public institutions, non-governmental organizations, businesses and other parts of society in order to attain a shared activity for promotion of SR.
5. To include topics on SR in primary, secondary and higher education, and to promote values of SR in daily mutual contacts of youngsters, as well as adults.
6. To create and implement a nation or EU wide program of public relations communication about SR in order to promote general awareness on how crucial a SR-based behavior of all humans and their organizations is for getting the society out of the current crisis and to prevent long-term crises/blind alley.
7. To establish a portal for both-way communication in public relations concerning the SR-based behavior with both good and bad examples.
8. To collect good and bad examples of SR and related practices of RH and innovation based on SR rather than on one-sidedness, for the society to become, be and remain an RH/innovative society with SR as a basic criterion of its excellence.
9. To collect information on development of SR anywhere and in the area under investigation in order to report about them.
10. To support initiatives of various stake-holders promoting SR and practicing it.

Tactics and operation should be defined later on per areas, but in the style of a coordinated decentralization.

This strategy is urgently needed because it can pave the way toward survival of humankind with a sustainable future. It does not fight economic efficiency, but currently prevailing and too one-sided criteria of economic efficiency.

Economic efficiency by the logic of the neo-liberal Chicago school of economics is one-sided and short-term oriented. It has an un-realistic supposition that the market is perfect with no biased human impact. It therefore tends to leave every problem to market forces, including the abuse of the law of external economics and abuse of the less innovative by the more innovative ones and other power-holders, even when they apply very narrow-minded and short-term criteria of economic efficiency. Thus, it leads to a fictitious quality of life, business and general economic and social situation, which is actually a blind alley caused by transformation of the A. Smith's model of market economy into a plutocratic fictitious one that is closer to the feudal times against which the founding fathers of USA have fought (Goerner et al, 2008), as well as the establishers of democracy-and-entrepreneurship society in Europe. Unfortunately, Baumol et al (2007) are too one-sided to perceive the blind alley of their suggestions about capitalism. Keynes, the most influential economic theorist of the 20th century supported short-term criteria, too, with his famous sentence that in the long term we will all be dead. Fujimoto (2006) correctly classifies Keynes-based economic measures such as prices, taxes, tariffs, import quota, etc. in the superficial rather than deep bases of competitiveness: the deep ones include technology, management, and organization. They can be much more related to creativity, innovation, RH and SR. The latter actually fights problems that result from one-sided management/behavior, and are very costly to restore/repair, such as:

- 1 Lack of non-stop invention-innovation-diffusion activities attaining RH; this lack diminishes competitiveness and hence benefits for all stake-holders and society at large.
- 2 Lack of reaching beyond R&D, buying equipment for production and other work processes, buying intangible goods such as patents, licenses, brands, models, and know-how, industrial engineering, design and trial production toward transition from such passive to creative approaches to the invention-innovation-diffusion activities, including all types of innovation rather than the technological ones only; this lack diminishes competitiveness etc., as well as creativity and enjoyable work of co-workers and hence their commitment to their organization and resulting high engagement at work.
- 3 Lack of RH-conceived selection of ideas that are suggested for R&D and innovation processes; this lack destroys the available human, technological, and financial resources into small pieces that allow for incremental rather than radical innovations only.
- 4 Lack of RH-consideration of all types of innovation (business program, technology and products, organization, management, methods, be them incremental or radical, attained inside or outside job duty); this lack also destroys the invention-innovation-diffusion-friendly values/culture/ethics/norms in the organization and in society at large.
- 5 Lack of respect for co-workers' creativity and RH in all phases of the invention-innovation-diffusion process; this lack creates passiveness and the feeling that co-workers and subordinated employees, their only remaining right being their right of irresponsibility.
- 6 Lack of RH-consideration of potential future needs of potential future customers in the moment of decision to start an invention-innovation-diffusion process; for this consideration now the anthropologists, ethnologists and similar 'soft' scientists are found very useful because their observation methods discover more hidden attributes than the marketing and R&D methods do; this lack causes waste of resources.
- 7 Lack of RH-consideration of the theory of innovative business with all its very many attributes and their individual and synergetic impacts on success; this lack causes waste of resources.
- 8 Lack of RH-consideration of all possible sources of inventions, innovations, and diffusion in the 'open-innovation'

style of business; this lack causes a waste of resources.

- 9 Lack of RH-consideration of demographic changes in society to be served; this lack causes a waste of resources.
- 10 Lack of RH-creation and control of invention-innovation-diffusion vision, mission, politics, strategy, policies, tasks, operations, monitoring, training, education, and rewarding, and related information acquisition and distribution; this lack causes waste of resources.
- 11 Lack of RH-consideration of given and potential risks related to both the routine-based and invention-innovation-diffusion parts of processes and their synergies, be these risks personal, internal/organizational, in supply- or sales-markets of human, financial, technological, informational, motivational, and other resources; this lack causes waste of resources.
- 12 Lack of RH-consideration of the entrepreneurial spirit, entrepreneurship, and entrepreneurship-supporting climate based on values/culture/ethics/norms and visible in invention-innovation-diffusion projects and their realization; this lack causes a waste of resources.
- 13 Lack of RH-based transition from the closed-innovation to the open-innovation model of the invention-innovation-diffusion process; this lack causes a waste of resources.
- 14 Lack of RH-consideration of the role of patents and other intellectual property rights to be bought or to be sold in time rather than too late or too early; this lack causes a waste of resources.
- 15 Lack of RH-consideration of organization's emissions into the natural environment; this lack causes waste of resources in the form of eco-remediation, health care, disabled people care, natural disasters to be cured, etc.
- 16 Lack of RH-consideration of productivity, efficiency, and effectiveness factors and resulting benefits reaching beyond narrow-minded and short-term criteria of success; this lack causes waste of resources.
- 17 Lack of RH-work on creation and maintenance of the values/culture/ethic/norms and knowledge as well as possibilities supporting invention-innovation-diffusion as a permanent daily practice of all opinion-makers in organizations and society at large; this lack causes waste of resources.
- 18 Lack of RH-work on creation and maintenance of the values/culture/ethics/norms and knowledge as well as possibilities of interdisciplinary creative co-operation of mutually different specialists, to fight one-sidedness of specialists; this lack causes waste of resources.
- 19 Lack of RH-work on creation and maintenance of the values/culture/ethics/norms and knowledge as well as possibilities of friendship as a precondition of creative co-operation of mutually different specialists, to fight one-sidedness of specialists and to enable them to not feel criticized, but rather completed up by disagreements resulting from differences in selected viewpoints; this lack causes waste of resources.
- 20 Lack of RH-knowledge of personal and professional attributes of all crucial co-workers; this lack causes waste of resources.
- 21 Lack of RH-understanding that the so called National Innovation System does not cover innovation and diffusion phases, but the invention phase only, or mostly, in a best-case scenario; this lack causes waste of resources.
- 22 Lack of RH-assessment of and respect for imagination capacity of managers and co-workers; this lack causes a waste of resources.
- 23 Lack of RH-consideration of and respect for innovation of the managerial style, organization and methods supporting democracy at work rather than one-way commanding management; this lack causes a waste of resources.
- 24 Lack of RH-consideration of the fact that external focus, decisiveness, imagination and courage, and RH/inclusiveness and domain expertise belong to the dialectical system of crucial attributes of managers and their co-workers for the organization's business to be innovative; this lack causes waste of resources.
- 25 Lack of RH-consideration of the fact that success is not normal, but failure, if the approach to the contemporary, i.e. innovative business is not requisitely holistic, and therefore a small percentage of idea pass from the pre-development to the development of new options, and from there the operation phase, and finally to the replacement phase; this lack causes waste of resources.
- 26 Lack of RH-consideration of the future market trends in order to prevent the going-down phase of the product or service life cycle, and hence organizational life cycle, rather than falling into the trap of 'recovering from success' due to oversights; this lack causes waste of resources.
- 27 Lack of RH-consideration that measurement of business/innovation results matters, but the most crucial factor is the values/culture/ethics/norms and related knowledge and resulting detection and use of possibilities; this lack causes waste of resources.
- 28 Lack of RH-consideration that it is nice/great experience which is sold to customers rather than products or services; this lack this lack causes waste of resources by sending customers to competitors.
- 29 Lack of RH-consideration of the fact that organization can learn very much from good universities and institutes, once it has the absorption capacity and clear insight in its own needs for knowledge and values/culture/ethic/norms to be absorbed from other organizations, of course, with an active adaptation rather than passive imitation of 'best practices' from other circumstances; this lack causes waste of resources.
- 30 Lack of RH-consideration that there is no one single best model or practice of the invention-innovation-diffusion process that fits all organizations and all social and natural environments; this lack causes waste of resources.
- 31 Corruption and other abuses of business relations, resulting in image that prevents people from dealing with corrupt

people; it excludes them from business life and friendship, etc.

- 32 Poor quality rather than excellence of supplies of goods, services and work, which lead to equal consequences as corruption and waste of resources.
- 33 Poor reliability as business and personal partners, which leads to equal consequences as above.
- 34 Bluffing or lying that both lead to equal consequences as above.
- 35 Persuasion of potential customers into fictitious needs for products, including medicines, and fictitiously necessary packaging, etc.; it leads to equal consequences as above.
- 36 Fictitious democracy, in which on one hand most people feel excluded rather than invited to help and create, and on the other hand one-sided decisions are passed by 'majority in sessions' rather than majority in reality; it leads to equal consequences as above.
- 37 Poor pay/wages/salaries along with enormous managers and owners incomes; it causes a poor market due to a poor buying capacity of a very big percentage of people as well as hate on their part, like in slave-owning and feudal economy/society, hence to a waste of resources.
- 38 Poor working moral resulting from feeling that owners and bosses misuse their employees, whom they view as cost rather than as their creative basis and co-workers, which means that the bosses and owners still manage routine work rather than knowledge and creativity; the latter two cannot be ordered, but enabled by management including SR in e.g. the form of requisitely holistically managed work relations; this causes waste of resources.
- 39 Fluctuation of co-workers, mostly the better ones who are able to find other jobs, and resulting loss of their expertise along with the resulting need to spend much time and money for training of new co-workers.; this causes waste of resources.
- 40 Lack of fidelity, feeling of belonging due to impression that 'we co-workers are tools rather than humans, and our only remaining right is the right of irresponsibility toward our bosses and owners'; this causes waste of resources.
- 41 Strikes resulting from the same feelings and their causes, including the mismanaged revenues distribution; this causes waste of resources.
- 42 Terrorism resulting from the same feelings in combination with nationalism and religious cover of economic and social reality; this causes waste of resources, lack of peace, hence lack of trust of population toward government...
- 43 Resistance against novelties that should become innovations, because of the prior experience that innovation used to cause un-employment rather than benefit except for the owners and bosses; this causes waste of resources.
- 44 Medical problems due to poor modernization of technology and work place safety; this causes waste of resources.
- 45 Medical problems due to abuse of the economic law of external economics by polluting air, water, and soil; this causes waste of resources.
- 46 Rapid growth of population, because women are not enabled to study, while the more educated women have many less children, and according to Nobel-Prize-for-Peace-2007 co-winner Prof. dr. Lučka Kajfež Bogataj the growth of population and growth of energy consumption per person have together burdened the Planet Earth about forty times more over the recent two centuries (orally, 2008, at Otočec '08 conference on excellence, in round table); this causes waste of resources.
- 47 Etc. (Based on conclusions from papers presented at Hrast, et al, editors: IRDO 2006, 2007, and 2008 conferences, and authors' earlier research).

The way out of these sources of blind alley is management with SR having its common denominator in bosses' provision of clear and well-founded respect for co-workers as experienced, knowledgeable, creative, inventive, and innovative human capital rather than cost added to the unavoidable cost of equipment. The same SR applies to treatment of other partners and nature, in a short term, at least.

In order to realize this way out of the blind alley of the current humankind, one can use three essential recent findings in economic literature:

- Florida (2002, 2005) found in a comparative analysis of US regions that the best development had been attained in regions with the highest 3T: tolerance for differences between habits of people - the honest ones, of course - attracts talents, and hence it makes sense to invest in technology there. Malačič et al. (2006) found equal situation in Slovenia.

- Porter (1990, 2006) pointed out that the basis of competitiveness evolves in four phases: from natural resources via investment to innovation and hence to affluence, which people have always wished to have. But affluence has a crucial side-effect: affluent people have no motive any longer to work in order to have, which results in a growing need of many citizens for solidarity etc. In affluence sources are not scarce, but real needs, while marketing and advertisement try to persuade people to have wants and try to buy like wants would be needs. (See also: James, 2007). Baumol et al. (2007) do not even mention or quote Porter, but they remind of this danger with a single quote (p. 288).

- Total Quality and similar methods of enhancing innovating and requisite holism of behavior can be up-graded with SR (Waddock, Bodwell, 2007).

Ethic of interdependence ought to be added to them to make them a synergetic style of human behavior leading to requisite holism of behavior and requisite wholeness of insights and outcomes.

Hence, theorists and practitioners with the major impact over the current society and economy need a more holistic approach, which can be covered with the SR concept. This would be a radical innovation of values/culture/ ethics/norms leading toward RH.

19.6 The Law of Requisite Holism and the Contemporary Invention-Innovation Processes

Systemic thinking as the practice of RH rather than one-sided thinking had been many millennia old practice of the successful humans, before systems theory as its theoretical generalization was created. Boundaries of which Metcalf (2008) reminds may be too one-sided or match RH. Like most other human capabilities, the practice of systemic thinking was informal, first, and then received the form of theory to make easier the transfer of good practice through teaching (Mulej et al, 1998; Mulej et al, 2003; Mulej, Ženko, 2004; Potočan, Mulej, Kajzer, 2002).

Our definition of RH behavior is explained in (Mulej, in Mulej et al, 1992, reworked in Mulej, 2007a). It is based on Bertalanffy's (1986, VII ff) notion that he had created the General Systems Theory against overspecialization, and not as one of many narrow disciplines. EU confirmed this notion well, as we see above. Holistic thinking requires more holism than the human natural capacity can cover. A specialized author (usually tacitly!) selects a viewpoint, to consider the object dealt with inside boundaries on the basis of limitation to one part of the really existing attributes only. When specialists of any profession use the word system to call something a system inside their own single selected viewpoint – it makes a system fictitiously holistic. It does not include all existing attributes that could be seen from all viewpoints and all their synergies. We therefore suggest RH (Mulej/Kajzer, 1998a, b), see Table 19.1.

←-----→		
Fictitious holism/realism (inside a single viewpoint/system. i.e. mental picture of the object)	Requisite holism/realism (a dialectical = inter- dependence-based system of essential viewpoints)	Total = real holism/realism (a system, i.e. totality of all viewpoints; equal to the object)

Table 19.1: The selected level of holism of consideration of the selected topic between the fictitious, requisite, and total holism/realism

For the RH to be achieved three preconditions, at least, matter:

- 1) Mutually different specialists in teams that feel ethics of interdependence and co-operate to attain the RH.
- 2) They include professionals from all and only essential professions/disciplines.
- 3) Their values are expressed in their ethics of interdependence and practiced in a creative teamwork, task force, session(s) based on an equal-footed cooperation rather than top-down one-way commanding.

RH behavior cannot include the global attributes only, because they make a part of the really existing attributes only, although they matter very much and tend to be subject to over-sight by specialists. Neither can RH behavior include the parts' attributes only, although they matter very much and specialists of single disciplines and professions tend to focus on them. Relations, especially interdependences causing influences of parts over each other, must not be forgotten about in RH behavior. Especially specialists, who have not developed the habit to consider specialists, who differ from themselves important to learn from, tend to make crucial oversights in this respect: they are not realistic enough.

RH behavior matters for scientific reasons, for individual success in whatever activity, and for economic reasons, too. See Tables 19.2 and 19.3 for a quick look at changes requiring RH more and more today for success in innovative society reigning over the global market/life. Why many people find facts in Tables 19.1-19.3 alien?

People of today are overwhelmed by market demands for change and they must match these changes with innovation and hence RH and hence ethics of interdependence, like never before. Five major changes happened in one-generation time, rather than as slowly as people were used to earlier, and are keeping this speed.

For almost all of the 100.000 or millions of years of its history (Bryson, 2005), humankind has lived in self-sustained economy with a random market, e.g. in the form of fairs. Innovation did not matter; requisite holism was reduced to local and family relations, mostly, so was ethics of interdependence. In producers' market this ethic and/or sustainable development did not matter either, because competition was negligible; cases may include medieval guilds, strong trade unions, or market monopolists of other types, including break-through innovations. Once monopolies had been broken, after 1870s (Rosenberg, Birdzell, 1986), innovation and hence RH and ethics of interdependence gradually became crucial – in the emerging buyers' and state supported buyers' market. Hence, in a very short period of time people have become supposed to change millennia old habits – add innovation to routine, RH to growing narrow specialization, as well as interdisciplinary co-operation to self-sufficiency of specialists. Narrow specialization that is unavoidable today may support either ethics of interdependence or ethics of self-sufficiency, depending on human values and their resulting definition what is the RH in their cases.

Prescribed standards, such as ISO 9000 (quality), ISO 14000 (environment), are cases of the related change of the buyers'-market situation. In addition, in recent decades market changes became much quicker (Table 19.3).

Official efforts for SR and RH are much more needed today than in times of the local economy, and very complex to attain under plutocratic reign over the global economy and its hiding behind the free market story.

Over the decades after the 2nd World War, market requirements have been changing more quickly than the human capacity to unlearn the old and accept the new culture. In every next decade, rather than a two-generation cycle of about 70 years (Mulej, 1994), new attributes preconditioned success in addition to the previous ones. Every phase after 1960, in the West (and Japan, Taiwan, South Korea, Hong Kong, Singapore, Australia and New Zealand) with their 20% of

population of the world, expresses the buyers' and state supported buyers' market (in Table 19.2). Competition keeps causing lower cost, including a lack of care for natural environment, if short-term and one-sided views prevail. Monopolies are no better, be them private or state-owned. A need results for costly eco-remediation, health care, organizational, managerial, business and technological innovation causing the development toward the sustainable enterprise (SE). We have no room here to enter details about them; see (Potočan, 2002; Potočan, Mulej, 2003, 2005, 2006, 2007; Potočan, Mulej, Kajzer, 2005). Is this the final phase of humankind's development/evolution? Can SR show the way toward RH and hence out of the blind alley?

Viewpoints Type of Market	Basic Relation/s Between Production and Consumption	Need for innovation and SR	Quality – excellence requiring requisite holism for innovation to back it
RANDOM MARKET	Producers' own consumption and occasional exchange of random surpluses	Minimal	Defined randomly and by tradition rather than innovation
PRODUCERS' MARKET	Growing production for poorly considered, known/unknown, customers, who lack impact over suppliers	Little	Defined by producers rather than by consumers, who are happy to buy what they can find (even with need for immediate repair etc.); no innovation
BUYERS' MARKET	Growing impact of customers requiring satisfaction / total quality of products and services, and conditions of life	Big	Defined by buyers and consumers and pressing producers and suppliers to compete to meet requirements by innovation
GOVERNMENT SUPPORTED BUYERS' MARKET	Increasingly organized / legalized impact of customers demanding total quality / excellence of products, services and conditions of life	Unavoidable	Defined by buyers and consumers and pressing producers and suppliers to compete to meet requirements by innovation; official quality standards are added; EU, e.g., requires holism

Table 19.2: Development of market relations and innovation – a case of growing awareness of the requisite holism as a precondition of humankind's survival and quality of life

Decade	Market & Social Requirements	Enterprise's Ways To Meet Requirements of Market with SR/RH Actions/Behavior	Type of Enterprise
1945-	Covering of post-war conditions of scarcity, rebuilding, etc.	Supply anything; supply does not yet exceed demand	Supplying Enterprise
1960-	Suitable price (as judged by customers)	Internal efficiency, i.e. cost management	Efficient Enterprise
1970-	Suitable price X quality (as judged by customers)	Efficiency X technical & commercial quality management	Quality Enterprise
1980-	Suitable price X quality X range (as judged by customers)	Efficiency X technical & commercial quality X flexibility management	Flexible Enterprise
1990-	Suitable price X quality X range X uniqueness (as judged by customers)	Efficiency X technical & commercial quality X flexibility X innovativeness management	Innovative Enterprise
2000-	Suitable price X quality X range X uniqueness X contribution to sustainable development/future (as judged by customers/people)	Efficiency X technical & commercial quality X flexibility X innovativeness X sustainable development (SD), making in synergy one kind of SR	Sustainable Enterprise (SE)

Table 19.3: From a supplying to a sustainable enterprise and increasing requisite holism

19.7 After Innovation and Affluence – Well-being by Creativity and SR?

There is an interesting view of economic development phases that stresses the notions that are summarized in Tables 19.1-19.3. See Table 19.4. (Porter, 1990, quoted in Brglez, 1999, 23-24). Porter speaks of competitiveness; we extend the idea to development and add our ideas about the related culture and phase 5. Obviously, the affluence phase in Table 19.4 is not the highest development phase so far, only; it is also the phase of growing problems of employment, supporting everybody, growing lack of ambition and related drug etc. abuse, etc. Conclusion: one must attain and keep capacity of RH in order to enter the innovation phase quickly and remain in it as long as possible, and/or renew its culture. The latter may make room for a 5th phase, which is needed: the 4th phase can hardly be avoided. (Mulej, Prosenak, 2007). Porter and Kramer (2006) do not mention phase 5 or related culture.

PHASE	ECONOMIC BASIS FOR DEVELOPMENT	RELATED CULTURE
1. Natural factors	Natural resources and cheap labor, providing for a rather poor life for millennia	Scarcity and solidarity, collectivism, tradition rather than innovation
2. Investment in modern technology	Foreign investment into the area's economic development; hardly/poor competitiveness in international markets	Growing differences, local competition, individualism, ambition to have more, be rich
3. Innovation based on local knowledge	Nation or region lives on its own progress and attain a better and better standard of living by international competitiveness	Growing differences and standard of living, global competition, ethic of interdependence, social responsibility, ambition to create
4. Affluence	People have finally become rich, which makes them happy in material well-being as a blind alley	Complacency, no more ambition, consumerism; what is quality, then?
5. Holistic creation and social responsibility (SR)	Material wealth suffices; effort aimed at spiritual wealth, healthy natural and social environment as requisitely holistic well-being	Ethic of interdependence and SR, ambition to create, diminish social differences to those caused by creation, including innovation

Table 19.4: From scarcity via complacency to the danger of a new scarcity or a new, 5th phase

SE concept means, among the other points, that the traditional economic criteria can no longer express reality, because they oversimplify (like e.g. Forbes does, in Mulej, N., 2006, or Baumol et al, 2007, but not so Goerner et al, 2008, James, 2007, Ećimović et al, 2002, 2007, 2008). Criteria of sustainability make the impression of success of the socio-economic development fictitious: it provided for hardly any betterment of life over the several recent decades (Božičnik, 2007; Stern, 2007).

Cost of humans' natural environment, as we quoted earlier, is only postponed to the next generations due to the lack of RH in business criteria of so far and today (Stern, 2007): it can diminish world's GDP by as much as 20% very soon, because SE criteria were/are unrespected. This might break the global market in the biggest economic crisis so far.

SE criteria are more realistic, but not enough, perhaps; criteria concerning well-being may serve, too.

Diener and Seligman (2004) offer a promising model. It includes important non-economic predictors of the level of well-being, such as social capital, democratic governance, and human rights; all of them influence work satisfaction and productivity well. Supportive social relations are necessary for well-being; well-being in its turn also leads to good social relationships with crucial economic policy implications. Desirable outcomes, even economic ones, often result from well-being rather than the other way around. People high in well-being later earn higher incomes and perform better at work than others. They also have better relationships, are healthier, and attain longer lives. Therefore these authors suggest measuring well-being with variables such as positive and negative emotions, engagement, purpose and meaning, optimism and trust, and life satisfaction. SR pays (Hrast, Mulej, editors, 2008).

Hornung (2006, p. 338) states that happiness is the permanent goal of humans and a holistic indicator of holistic well-being, well-functioning, and the physical, psychological, and social health of an individual.

What else should be added as criteria of the contemporary excellent quality based on innovation?

One can watch companies (Collins, 2001; Collins, Porras, 1997; Gerber, 2004; etc), individuals, countries, or regions. Florida (2005) found in field research, which we have mentioned above, about the reasons of differences in economic prosperity between regions of United States two basic causes of them:

(1) In USA, the creative class is rising from 5 (five) percent a century ago to +30 % in 1999, with 12% in its super creative core, while the working class is dropping from 40% at its peak several decades ago to 25% now.

The largest social group is the service class, but it does not earn much, because it only provides preconditions for the creative class to create most of all and for all (Florida, 2005, 90-99).

(2) In USA, the most prosperous regions have the highest 3T indicator: tolerance for difference between neighbors all way from traditional families to gays etc; talents that are attracted by tolerance and chances to be creative; technology invested (Florida, 2005, 257-273). Malačič et al. (2006) found equal data and conclusions in Slovenia.

Tolerance is a relation making room for differences between humans to complement each other; it helps them to avoid oversights and to attain RH. Talents make the basis for creativity, including innovation, which in turn can best result from co-operation of specialists. Investment in technology supports their teams, and receives support from them: if various and different talents work hand in hand, results of their creativity have more chance to attain RH and succeed.

In other words: (informal) systems thinking is the back-ground of the creative class and innovative society. But it causes difference, obviously, because not all people are equally capable of RH thinking and creation, including innovation as a type of it.

But the affluence phase might be a dead alley, if people lose ambition for creation. People therefore need either a prolonged innovation phase based on RH invention-innovation rather than one-sided processes, or

a new phase, a 5th one, of creative happiness based on ethics of interdependence and interdisciplinary creative co-operation with SR replacing the phase of affluence: for selfish reasons, people are less selfish, short-term thinking, and narrow-minded, and they apply more RH.

To make this innovation of culture and economy happen, a part of population must become the core of the creative class, not all at once: Lester (2005) found authors detecting that about 15-20% of people are willing to take risk and cooperate, about the same many want to be (abusing) free-riders, and the majority just waits to see, what will the opinion makers undertake. But this majority includes many humans with creative potential. Leaders providing role model of interdisciplinary creative co-operation can activate this potential rather than the commanding managers who do not. This would make humans happy and society prosperous. But it requires RH thinking.

This might lead to society and economy of (RH perceived) SR.

19.8 Society and Economy of Social Responsibility and Creation beyond Ambition to Have

SR is a new response to the issue of the need for RH as a difference making a serious difference. See Fig. 19.1 again, if necessary. Affluence is no problem as long as humans are RH in their observing, perception, thinking, emotional and spiritual life, decision making, and action; they include broader viewpoints, including indirect and long-term consequences and conditions of their actions. The RH rather than a fictitious one could hardly cause the culture of affluence. It would rather extend the ambition to create, including benefit of the entire society. RH and related ethics of interdependence can help humans join creative cooperation and perceive them-selves as a part of the entire society/community (Mulej, Prosenak, 2007; Potočan, Mulej, 2006, 2007).

Namely: SR is in the EU's definition a concept for enterprises to integrate, on the basis of their free will, social and economic concerns into their business (including sustainability) and relations with stakeholders (IRDO, 2006). IRDO reaches beyond enterprises (ibid.): SR of individuals, organizations of all kinds, professional groups, nations, peoples, unions. Following several authors IRDO defines SR as the humankind's obligation to realize shared objectives of the society and to good beyond legal obligation. (GV Planet, 2007; Hrast et al, 2006, 2007; Hrast, 2007; Knez-Riedl, Mulej, Ženko, 2001; Knez-Riedl, 2001, 2002, 2003a, b, c, d, 2006; Knez-Riedl et al, 2006, Knez-Riedl, Hrast, 2006; Potočan, Mulej, 2006; Prosenak, Mulej, 2006; Rozman, Kovač, editors, 2006). Such attributes of behavior create new ambition, reaching beyond complacency of the affluent ones. No short-term efficiency, including e.g. abuse of external economics, is enough, but happiness of many stakeholders that we have mentioned above. With the current management style, the use of capacity of US employees is 23% only (Ackoff, 2003) due to a lack of systemic thinking (Ackoff, 2001). It is not much better in EU (2006, 2006a, 1995), but there are good intentions and help is offered (Hrast, Zavašnik, 2007). Though, habits must change (Mulej, 2007b) toward RH thinking and acting (Mulej et al, 2008).

19.9 Conclusions

There is no sustainable future without SR as the prevailing values/culture/ethics/norms included in basic criteria of decision making. Without SR the innovative society is based on too one-sided criteria to help humankind survive. Besides, the innovative society is still limited to about 20% of humankind living in the oldest market economies. It is not successful, if criteria of sustainability are added to the one-sided economic criteria of calculation of success. The Nobel Prize for peace 2007 confirms this. Even if the 'West' considers itself successful, research and public press report about increasing numbers of humans feeling unhappy and hence abusing drugs from alcohol to marihuana etc, and doing so at an increasingly young age. This is a sign that there is a lack of incentive for creation, for the Fromm's transition from 'owner to creator', as the most human attribute (James, 2007). Such processes of decline rather than development have been around before. The Roman and other empires have faced ruining, once their people entered affluence and became complacent; they forgot about SR and RH. Hopefully, SR reaching beyond CSR to SR of all, and incentives, such as happiness based on creativity, can be a way out of the blind alley toward RH and hence to sustainable future.

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20. A model of making theory as invention to become an innovation

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Abstract:

Overview of some newer references on innovation shows, that changing a theory to an innovation is an overseen topic. Many theoretical works are underused treasures of knowledge. Such theory can be considered a potential innovation able to become a widely diffused innovation beneficial to users of many areas or one area at least. A dialectical system of measures is suggested that could help the theory's promoters make it used more. Absorption capacity, innovation promotion and diffusion are combined. This book provides for a case to be tackled.

Key words: diffusion of novelties, government, innovation, requisite holism, systems thinking

20.1 Introduction

Some theoretical works might belong to victims of a too one-sided approach to transforming novelties into innovations. Otherwise a theory's promotion would not be necessary, but this theory would be a common practice, among scientists - specialists in its area, at least. We will brief what and how could be done, if one used (the dialectical) systems thinking/behavior in order to attain the requisite wholeness of suggestions to use such a theory more. The problem under discussion seems to have its concrete roots in one-sidedness of thinking about the invention-innovation-diffusion process with authors of theories as inventions. This book presents such a case too.

20.2 Requisite Holism

We will only brief systems thinking and requisite holism here, because we have published on them recently several times (Mulej et al, 2004; Mulej et al., 2003; Mulej, Ženko, 2004; Mulej et al, 2006; Mulej, 2007; Mulej et al, 2008; etc). See Table 20.1. The systems approach is obviously supposed to enable people to think along the lines of the left column in Fig. 20.1. The point is in prevention of oversights and resulting mistakes, including World Wars and World Economic Crises, the climate change problem etc., but also a number of mistakes with less broad consequences, such as bankruptcy, car crashes, too poor acceptance of the theory under discussion, etc. We will apply it along with Schumpeter's division of the innovation process in 3 stages: invention, innovation, and diffusion (quoted in Čelofiga, 2008, 9), to the third stage.

The Mulej/Kajzer (1998) law of requisite holism, fortifies Mulej's concept of the dialectical system (Mulej, 1974): it describes the natural fact, that humans do not have the capacity to be totally holistic, which has been the (very justified!) requirement of the first author of the modern General Systems Theory L. v. Bertalanffy (1979; on page VII he explicitly says that he attacks the over-specialization). On the other extreme, people hardly can do a good job, if they limit themselves to a single viewpoint, e.g. of a single profession with no co-operation with people who see the same processes differently. The right way, also in a theory's case, is the middle way, but people must take responsibility for choosing a dialectical (i.e. interdependence-based) system of viewpoints of one kind rather than of another kind. Fig. 20.2 (Details in: Mulej et al, 2000).

In the case of a new theory, Fig. 20.2 means the same approach as in all other cases: authors of the definition of their level of holism of monitoring, perception, thinking, emotion, spiritual life, decision making, and action must and may decide, with their full responsibility, what will be included into their dialectical system of viewpoints, and what will be left aside (but will continue to exist and make its influence!). For a total holism the authors would have to cover all professions, which are said to be several thousands. Thus, the solution to this problem is a double capacity of humans:

- To be a specialist in a single profession, in order to know enough from a selected viewpoint;
- To be capable of systems thinking as a methodology of creative interdisciplinary co-operation, rather than as a methodology of a sophisticated description of findings inside a single selected viewpoint.

What viewpoints may be found essential in the case of the transfer of a new theory into practice more successfully than so far? The user-organizations and -humans need absorption capacity for the new ideas / knowledge from the academic environment, which is foreign to many of them, especially to the smaller organizations (Mulej, Likar, Potočan,

2005; Mulej 2007a). In addition, authors need persuasion capacity, and know-how.

o	Systems / Systemic / Holistic Thinking	Un-systemic / Traditional Thinking
1	Interdependences, Relations, Openness, Interconnectedness, Dialectical System	Independence, Dependence, Closeness, A single viewpoint/system
2	Complexity (& Complicatedness)	Simplicity, or Complicatedness alone
3	Attractors	No influential force/s, but isolation
4	Emergence	No process of ma-king new attributes
5	Synergy, System, Synthesis	No new attributes resulting from relations
6	Whole, Holism, Big Picture, Holon	Parts and partial attributes only
7	Networking, Interaction, Interplay	No mutual influences

Table 20.1: The Seven Interdependent basic systems of terms of systems / systemic / holistic vs. un-systemic Thinking (as a dialectical system) and behavior

←-----→		
Fictitious holism (inside a single viewpoint)	Requisite holism (a dialectical system of essential viewpoints)	Total = real holism (a system of all viewpoints)

Table 20.2: The selected level of holism between the fictitious, requisite, and total holism of human behavior

20.3 A tentative dialectical system of viewpoints concerning the suppliers' and customers' capacity to transfer knowledge / inventions from e.g. research organizations to practice (in general)

20.3.1 Innovation of culture in government, universities and enterprises

Historians found that it had not been the technological innovation which came first and caused a new quality of life, but the innovation of socially prevailing culture making new room for everybody to be free to think, speak, and take risk as entrepreneur (Rosenberg, Birdzell, 1986). From then on, which is after the abolishment of the guild-based economy and of the society with (feudal) class differences and wealth based on heritage rather than on innovation/entrepreneurship (after 1870's, in the most advanced 20 % of humankind of today) room for innovation was increasing. Inventions from research organizations such as universities and institutes belong to the under-used sources of innovations. They are poorly transferred to the enterprise practice in EU (EU, 2004; Mulej, 2006). This may be true of the precious theory under discussion here.

Many Western researchers of these problems presuppose that the market pressure alone makes humans and their businesses willing and able to absorb whatever new knowledge surfaces, if they feel that their application of this knowledge will increase their competitiveness. Therefore, researchers claim, it is the role of the government to remove obstacles for competition and to invest in education and training in capabilities, which are needed for people to cope with the more demanding markets of products and services (Bevan et al, 2004; Dakhli, de Clercq, 2004; etc). This may be true, if businesspersons are entrepreneurial rather than routine lovers and if the general population prefers competition to solidarity, and permanent changing to a peaceful life. Such a behavior can be found in the innovative societies much more than in the other 80 (eighty) percent of the world population of today (E.g. Dyck, Mulej, 1998/1999; Rebernik, Tominc, Pušnik, 2008).

Yes, we can admit the experience, that removing the obstacles to competition works, if people know, want, and can do their business under competition; how badly the removing of obstacles fails otherwise, has been well visible in the case of Gorbachow's perestroika in Russia. The conclusion: modern values and knowledge, including know-how, make a dialectical system of preconditions for the institutions to work properly (see: Abramowitz, 1986 and 1991, in Bučar, 2001; Ećimović et al, 2002; Ećimović et al, 2007).

If this was easy, there would be no international movement aimed at promotion of social responsibility: the organizational culture needs to be innovated, not technology only (Hrast, et al, editors, 2006, 2007, 2008; Potočan, Mulej, editors, 2007). This helps interdependence of mutually different and hence complementary specialists become visible: ethics of interdependence may result and support co-operation.

A lot of help can come from transforming the marketing department from a service of selling to a service of providing information, including information on the research organizations, and thus serving as the bridge between businesses and research organizations (Mulej, 2006; Mulej, 2007a).

But the most crucial of all novelties, resulting from our research of so far is the following (ibid.):

- According to its role as the general coordinator and manager of the most general issues of a society, the government defines the framework conditions, including the ones related to the transfer and absorption capacity concerning novelties supposed to become innovations.

- Government can act in this role by commanding, subsidizing, enabling, allowing, but also as a rather big buyer in a buyers' market; the latter role may be the best choice in this case, but it is very rarely used. Therefore, government can and should define in its procurement rules concerning supply to all government offices, medical, educational and other public organizations, that only the most innovative organizations may be suppliers. These suppliers will tend to require

the same from their suppliers.

- To be able to succeed, government must also be a role model of innovation. Innovations related to the management style and organizational process and methods can take place in its offices, too, like everywhere else.

20.3.2 Innovation concerning the process of transforming an invention to an innovation

From empirical discussions about any product or service for market we briefly conclude:

There are many products or services, which offer the same functionality, but there are other criteria for a customer to choose one. Thus the points we are going to mention in the text to come are important for business success of a supplier. This includes scientists trying to attain more use of their results: this effort is related to innovation processes.

New product/service/theory developers may be concerned about the technological attributes only of their novelties, or rather conceive them more holistically to attain unknown customers satisfaction. To meet customer criteria of good enough / requisite quality, products must match requisite wholeness of quality. Thinking about (requisite!) wholeness must include technology, production, business planning/doing, marketing including selling, human resources, property rights, and several more aspects, as a (dialectical) system, which includes consideration of all its essential subsystems, partial systems, sub-processes and partial processes as well as their synergies, limited to covering everything essential and nothing else nor less (Mulej et al, 2008). A total holism is impossible; there are too many viewpoints and synergies around in reality for all attributes to be covered completely (Tables 20.1 and 20.2).

An invention-innovation-diffusion management, developing, producing, and selling should hence better be a very interdisciplinary endeavour, which links at least business, technology/ies, human resources, organization, management, and nature into one whole, leaving no essential holes / blanks – if it should produce an innovation.

This means that creativity and requisite holism in the phase of a product (= the theory under discussion, in this case) development (without later phases of the process) are not enough, although essential. Requisite holism may be based on using the systems theory (of a selected kind, preferably the Dialectical Systems Theory rather another that aims at description of a part of nature etc. inside its own limits) explicitly or implicitly, informally (IDIMT, 1998; Mulej et al., 2000; Ženko, 1999; Ženko et al., 2002; Gu and Chroust, eds., 2005; Mulej et al., eds., 2005; Buchinger, ed., 2005; etc.), at least. Informal systems thinking takes place when the concepts in Table 20.1, left column, are used in investigation, thinking, decision making, and action, by networking, inter-disciplinary and trans-disciplinary approach based on inter-disciplinary cooperation, openness, hierarchy of complexity, etc., but no formal language of systems theory is applied (Mulej et al, 1998; Vrečko, Mulej, 2008). 'Holism' inside a single discipline helps, too, but it is rarely sufficient for unpleasant surprises (caused by the so called strange attractors, i.e. unforeseen factors and synergies) to be avoided. – The concept is important because today, worldwide, there is a lack of education in systems thinking / systems theory, there are many unavoidable narrow specializations, and hence there is a lack of consideration of (requisite) holism. Even more: holism is frequently considered fictitiously, limits of consideration being reduced a lot and reviving the out-of-date reductionism under the name of systems thinking (Tables 20.1, 20.2).

20.3.3 Systemic Quality (as Seen by Customers / Users) and its Roots

A further aspect of making an invention an innovation, i.e. really used with benefit, tackles its application by many. Research on diffusion of novelties (Rogers, 1995/2003) demonstrates on the basis of several thousand cases, that it is very difficult for an author and his or her change agent to make an invention accepted by the potential customers. What customers find good enough, is called excellent / perfect and depends on five pillars of total quality which are interdependent and each of them must be excellent (Creech, 1994). They are products, processes, leadership and commitment, linked in a synergy by organization. Thus: the product, processes, organization - all must be perfect, management must be leadership, not manager-ship, i.e. cooperative leading rather than commanding managing, while commitment of co-workers is an unavoidable partial system as well.

A product is perfect if meeting criteria of "systemic quality" made of the system (= network) price, (technical and commercial) quality, range, and uniqueness (Bolwijn, Kumpe, 1990) as they are both defined and accepted by customers and without harm to the natural environment, hopefully (Ećimović et al. 2002, 2007). No criterion may be missing; all of them are interdependent (Table 19.3, last line).

If innovation is the precondition of excellence, which is a precondition of market success, let us brief the preconditions of innovation. (We should, of course, use no linear thinking in this context; many unmentioned factors of complexity and complicatedness may have their impacts, directly or indirectly.) It is no simpler for a theory than a product of another type.

20.3.4 Preconditions of Making Innovation from an Invention on the Authors' Part

Authors and/or their representatives, dealing with potential customers and with their potential product, aim at making innovation from their invention. Innovation is both a complicated and complex outcome and process, which depends in a concerted (= systemic) way on the system of the following (interdependent) preconditions (Table 20.3; See: Mulej, Ženko, 2004, for details; interdependence is denoted with X):

Innovation = (invention X entrepreneurship X holism X management X co-workers X innovation-friendly culture X customers X suppliers X competitors X external (socio-economic) conditions X natural environment X random factors).

Table 20.3: Dialectical system of preconditions for innovation to show up

Innovation, as a process, is obviously a topic, which belongs to no single science or profession or person alone, but requires all of them to share the effort of inventing and innovating and its yield, after a success with customers. Therefore invention, innovating and innovation must be integrated in the entire business process as well as in the support provided by the national economic system and national policy. This attribute is necessary to suppliers and to users/buyers of a new theory as well.

20.3.5 *Implementation of Continuous Innovation on the Authors' Part*

The framework model of implementation always includes vision, mission, policy, strategies, and tactics before operation and monitoring that feeds information back to previous phases for corrections to be undertaken (Belak, 2000; Čančer, Mulej, 2006; Dyck, 2006; Rosi, 2004; Rosi, 2008; Rosi, Mulej, 2006; Udovičič, 2004; Udovičič, Mulej, 2006). We need also to consider that implementation of a strategy is at least as complex as its making; it is here that we confront the established old habits and try to break them (Feucht, 1995), be it in the authoring organization or with its potential customers.

In the case of innovation (rather than routine) these phases have specific contents. They are presented here in a logical sequential order, but in reality the process is not linear at all, but dialectical, i.e. full of interdependencies and interactions (Mulej et al., 2005 and earlier):

- Vision may be summarized as »survival on the basis of competitiveness by holistic creative work and cooperation for innovation aimed at a systemic quality in accord with customers' (new) requirement«.
- Mission (e.g.): »delight customers with an excellent systemic quality and attract them as permanent customers«.
- Policy (e.g.): »implement innovative business as a source of a continuous systemic quality in all parts of the business process and all units«.
- Strategy towards implementation of such a policy may employ continuous self-assessment of one's own quality in terms of the European Quality Award or Baldrige Award, or (as a first phase) attainment and re-attainment of International Standards Organization's ISO 9000 certificate or something similar.
- Tactics for implementation of such innovation strategy include e.g. an »organized critique, followed by teams and task forces that work on solving the selected problems« (on a free-will basis and on company time, one hour a week) with awards for inventions (symbolic in value, but with no delay) and for innovations.
- Innovation reward is foreseen for all of the innovative team, all members of their own organizational units, every organizational member including managers, while a half of the value created by innovation enters the company business funds (Mulej et al, 2005, and earlier).
- Training and education must be added before the entire process, and every phase of it. Monitoring of outcome must be added at the end of the entire process, and every phase of it, for feedback and correction in due time.

Once inventions and potential innovations results from the above-summarized process, the diffusion process comes in to change ideas and products into innovation (Rogers, 1995/2003).

20.3.6 *The Diffusion Viewpoint of Making an Innovation and Market Success*

In the case of any product or service (a new scientific outcome in this case), its producers and representatives are in the role of change agents and have to do their best to make their product or service (that is new to potential customers) accepted by its potential users. This means that they need a lot of capacity in communication, persuasion, listening, gaining opinion leaders and their informal aids as facilitators of the persuasion process, etc.

In a competitive market, a supplier can hardly let customers wait for a new product or other invention, they are also hard to discover, demand must often, but not always, be created. This is done by persuasion and diffusion helping both the authors and the potential customer know each other better. What should e.g. a supplier think about to achieve this? When is a new product or service quality good enough? The author/supplier cannot know this answer as long as s/he cares for his product more than for his/her potential customers. Hence, the diffusion process addresses the requisitely holistic dialectical system made of:

- The novelty to be offered,
- The communication process between the supplier/s and the potential customer/s,
- Time for potential customer to decide for the novelty (or against it), and to do so in a big enough number for the supplier to succeed economically, and
- The group of potential customers as a social system, i.e. community. (Rogers, 1995/2003)

Every potential customer may be another story. The framework summarized here may need very particular elaboration for every potential market segment to come to be known well enough, mastered and even attracted on a long-term basis. Why?

- Change agents, with support from the opinion makers and their unprofessional aids, may make the potential customers

aware of the novelty and even persuade them, or not.

- The social structure, norms and roles of the change agents and opinion makers in their social system (i.e. the social group to become customers) may support the novelty, or not.

Whether or not the novelty will become an innovation, is up to its potential customers. They may find it suitable, or not. Authors/suppliers may do a more or less informed guessing about them, and try to influence them. Thus, change agents are needed.

The individual properties and socio-economic statuses of customers may make them interested in the novelty a lot or hardly, and do so quite early, later on, or never.

A similar impact over the potential customers may be ascribed to communication channels:

- To some mass media may be sufficient;
- Others may need interpersonal communication with their peers and friends who already have acquired the novelty because they trust them more than the advertisers;
- in both cases more cosmopolite or more localite channels may do a better job for different potential customers.

The potential customers / adopters of an offered novelty may be as different (from customers - innovators to laggards). One consequence of this fact is that they:

- Are differently easy / hard to persuade,
- Take a differently long time to make their decisions,
- Need different approach methods of change agents, opinion makers and their aides,
- Find different attributes of the product offered acceptable / promising / inviting / persuasive, etc.

The suppliers are interested in selling many copies of their product or service (e.g. seminars on their theory, books, courses, etc.), and to do so with the least possible effort and cost. Hence, they are very interested in creation of a critical mass of customers adopting their supplies. Once the critical mass is attained, the new market develops a lot on its own, and the change agents may and can concentrate on other potential customers. Concrete figures about percentage differ.

As a case of reminder of requisite holism about innovation see Table 20.5 (renewed, our version).

Too often the potential customers who are less open, rich, innovative risk takers are left aside. This means that the change agents do not change the habits of the potential customers who may need the novelty offered most of all, because they are lagging behind the development of others anyway (even if they have good reasons to do so, from their own viewpoints). This situation is very frequent (e.g. cases in Dyck, Mulej et al, 1998/1999), covering 80 % of humankind, and is called the law of the innovation-need paradox (Rogers, 1995/2003).

That's why networks matter so much, be it between individuals or between organizations (in which the diffusion process is even more complex and complicated, because more persons and relations are involved). It depends on the type of the novelty offered, whether or not a centralized or a decentralized diffusion system works better.

Even more: organizational attributes, which are helpful in the phase of creation of awareness, interest, positive decision etc. concerning a potential innovation, may be harmful in the later phase of its practical implementation, and vice versa (Rogers, 1995/2003). E.g. it may be easy to persuade a manager, but the consequences may be bad, if he or she is found imposing rather than trustworthy as an opinion leader. Besides, an opinion leader must neither be too different from his community nor too equal to them. Etc.

Consequences are the final essence of the diffusion, and they are normally a synergy of desired and undesired, direct and indirect, foreseen and unforeseen outcomes. – The more (requisitely) holistically these and similar issues are worked out in the feasibility study, business plan and marketing plan, the bigger may be chances for the consequences to have less undesired, indirect, and unforeseen consequences. Systemic thinking helps a lot again, including the case of a new theory as an invention.

20.4 Coverage of Using a Theory as an Invention in Innovation Literature

There are many more authors and contributions about different aspects of the innovative society today than ever before, although there have been only nine European conferences about innovation and creativity so far (Buijs et al, 2007). Senge et al (2004/2005) offer an interesting new approach to change and learning. Leydesdorff (2006) offers an interesting new concept of modelling, measuring and simulating the knowledge-based economy. Schwartz (2006) is trying to help people be more entrepreneurial (and has already sold over four million copies, which is a sign of its own how far many people are from the capacity to master their destiny in the innovative society). Lester and Piore (2004) are warning – under the label of the need for capacity of interpretation – that the contemporary American education lacks education in capacity of creative interdisciplinary co-operation (which Mulej has called for in his 1979 bestseller book), which is a precondition for success in the innovative efforts. Nussbaum (2005) raises awareness that ‘despite spending huge sums on R&D, most corporations have dismally low levels of innovation productivity – up to 96% of all new projects fail’ – and offers them suggestions how to get better. McGregor (2006) points to attributes of the most innovative companies of today. The Economist (2006) surveys attributes of the innovative organization. It publishes also its technology quarterly (e.g. The Economist, 2006a, b, c). Huston and Sakkab (2006) are given room in Harvard Business Review to inform about their new model for innovation. Business Week (2004) decided to focus on innovation for its 75th anniversary issue under the label ‘The Innovation Economy’ in its special report. In June 2006 Business Week published its inaugural issue of IN: Inside Innovation with its editor’s words: ‘We dedicate ourselves to the

proposition that making innovation work is the single most important business challenge of our era. Our goal is to make a meaningful difference in the difficult journey toward building innovative business cultures.’ (Nussbaum, 2006). The International Society for Knowledge and Systems Science links knowledge with holistic thinking (ISKSS; Gu et al, editors, 2006; etc.). Mulej’s Dialectical Systems Theory links creativity with holistic thinking (Mulej, 1979, and later, incl. 2008). Conferences PODIM of which the 28th has taking place in March 2008, link entrepreneurship, innovation and management (e.g. Rebernik et al., 2004-2008). Conferences STIQE, which have taken place eight times so far on a biannual basis link systems thinking, innovation, quality, entrepreneurship, and environment (Rebernik and Mulej, eds., since 1992). Etc.

We could no way include all references on innovation in economic, sociological, psychological and similar literature; it is no longer a technological topic only. IBM (2006) reports on a world-wide survey’s finding that innovation of business style is even more crucial than the technological innovation. Here, we are going to put another question: is it enough to deal with the innovation process, innovative business, and innovative society, once we want to attain the requisite holism in consideration of the contemporary life and trends; our response is clear: no, it is not.

Literature on innovation abounds. Still, we did not detect literature considering a theoretical novelty as invention supposed to become innovation among scientists.

20.5 Concluding comments

Any invention can be used as an innovation more, if government innovates more its own processes, and acts as a big buyer in the modern buyers market, which is no simple novelty to become innovation. It requires a lot of innovation of culture of the government bodies and other public organizations. But the alternative is even more complex – the lack of holism and the lack of an innovative change causing a country to remain and/or become even more an old lady rather than the most dynamic and innovation-based economy of the world. Innovation of marketing in companies can help too. So does innovation of management to include more co-workers in the invention-innovation-diffusion process.

Idea →	Invention →	Suggestion →	Potential innovation →	Innovation → (diffusion)
Unclear potential	Promising a benefit	Recorded as promising a new benefit	Capable of yielding benefit	Providing and yielding benefit (to many)
Scientific research and applied development			Production & market management	
Scientists (for <u>basic knowledge</u>) and Technologists (for <u>applied knowledge</u>)			Entrepreneurs, managers (with co-workers), (many) customers (for <u>final benefit</u>)	
Interdependent complex phases of a complex process: all essential, none self-sufficient → need for requisite holism by (informal) systemic thinking				

Table 20.4: Summary of the Invention-Innovation-Diffusion Process

The invention-innovation-diffusion process, including any novelty, is long, complex and complicated. It runs from freeing, making/enhancing and activating capabilities of all available resources all the way to the final acceptance of the novelty by the customers and resulting benefit for them, and then for many of them, and the authors and owners of the novelty. Developing and diffusion of any product or service – a good theory in this case – are two big parts of the same whole, very interdependent and requiring (informal) systemic / holistic thinking and behavior. It also means a transition from a routine-based to an innovative management.

It is no less complex story in the case of a scientific theory: Tables 20.4 and 20.5.

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VIEWPOINTS TO BE CONSIDERED		Phases of users' decision making about a novelty				
		1 Awareness	2 Persuasion	3 Decision	4 Applicati- on	5 Reconfir- mation
	Customers – innovators					
	Early customers					
	Early majority					
	Late majority					
	Laggards					
Potential customers' absorption capacity for the introduced novelty – to-be innovation						
Requisite holism of potential suppliers/ authors of novelty – to-be innovation						
Requisite holism of potential customers of novelty – to-be innovation						
Requisite holism of pressure of market, government and bosses concerning novelty – to-be innovation						
Requisite holism of information system concerning novelty – to-be innovation for suppliers and customers to know enough						
Systemic quality of novelty – to-be innovation (based on requisitely perfect products, processes, leadership and commitment, linked in a synergy by organization, and expressed in the system (= network) price, quality, range, uniqueness, and environmental care)						
Requisitely holistic vision, mission, policy, strategy, tactic, operation, and control of the entire process with suppliers (and users)						
Opinion leaders						
	Relative advantage					
	Compatibility					
	Complexity					
	Testability					
	Visibility					
	Public					
	Interpersonal					
Nature of the culture of customers						
	Optional					
	Group					
	Authority					

Legend: the darker the area, more change agents' effort is needed

Table 20.5: Matrix of essential attributes of diffusion process of a novelty supposed to become innovation, from the viewpoint of change agents

21. Business policy and strategic management for the sustainable future

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Abstract:

Globally operating organizations may be ascribed the greatest impact over the global social and economic situation including the issue of sustainable future. Their type of impact depends on their business policy and strategy and their requisite holism. Mulej / Kajzer law of requisite holism (1998) reminds people of their need to reach beyond a single viewpoint toward including all essential viewpoints, their interdependences, interactions and synergies, i.e. their dialectical system, although they have no real chance to attain total holism. In our research we explored globalization issues that compound a framework for thinking about global enterprise strategy. For the strategy of any kind we have to establish vision and business policy first. The business policy and (global) enterprise strategy may well support the requisite holism and help humans pave their way to their sustainable future.

Keywords: business policy, strategic management, global strategy, small and medium-sized enterprises, requisite holism

21.1 Introduction

Sustainable future (Ećimović et al, 2007) is a global need for human kind to survive requiring global strategy, in general and in enterprises, on which we will focus here. If the global enterprise strategy (GES) fails to support the requisite holism of enterprise's behavior, i.e observation, perception, evaluation, thinking, emotional and spiritual life, and action, the enterprise may fail to attain any future, not to speak of a sustainable future. Table 21.1.

←-----→		
Fictitious holism (inside a single viewpoint)	Requisite holism (a dialectical system of essential viewpoints)	Total = real holism (a system of all viewpoints)

Table 21.1: The selected level of holism between the fictitious, requisite, and total holism (Ženko et al 2008, 145)

From the recent literature (quoted in the text below) we perceive that the GES is a trend of the modern world (with or without thinking about the sustainable (development) future of the humankind). Hence it follows that in this frame of organizational development there is a lack of integral (and integrative) linkage in consideration of leadership and business policy as well as other components of integral management concepts. This is why we would like to find out an answer to some questions, related to business policy / GES.

Present practices on the Earth (Ećimović, Stuhler, Dobrowolski, Vrhovšek 2008a, 17) such as: the destruction of nearly all terrestrial waters by synthetic chemicals, bio and air, (rain-induced) pollution, the destruction of air by land, sea, and air traffic, and synthetic chemicals, the destruction resulting from war, the destruction of the ozone layer, destruction of soil fertility by present agricultural practices, including erosion and desertification, global warming, and of course the explosive reproduction of humankind: all of them should be managed in such way as to assure humanity's long-term sustainability on the Planet Earth. Therefore we wish to deal with the selected problem – planning GES considering sustainable future of humankind.

The future is unpredictable, nevertheless we would like to point out the important themes an organization must (in the future) be aware of, and globalization issues that compose a framework for thinking about GES (process) (also in the meaning of “change the world for better”). Many researchers discuss GES without regard to activity, size, phase of the life cycle, culture etc. of an organization, regardless of the environment from which organizations originate (see also some quotes below). All these and more attributes influence and change the feasibility of successful globalization. In our contribution we will explore the strategic dimensions, benefits and drawbacks of a GES; industry conditions respectively industry globalization drivers (market, cost, governmental, competitive, and information drivers) and strategic development situations in (micro,) small and medium enterprises ((M)SMEs). Small and medium-sized enterprises are often referred to as the backbone of the European economy, providing a potential source for jobs and economic growth (Key figures on Europe 2008, 110).

Selected viewpoint of our investigation is help to make sustainable future possible by a requisitely holistic GES of (M)SMEs in a big, global world. So: do the principles of big ones apply to (M)SMEs? Are (M)SMEs able to compete with global multi-domestics and/or global companies, or should they be parts of these global actors? Between what kinds of strategic developmental situation can they choose and what/which dimensions can put obstacles in their way? Our hypothesis reads: planning (global) enterprise strategy is a part of very important starting points for organizational survival, existence, and development, and business activities results from leadership, vision and business policy. Business policy results from organizational vision and presents broad starting points for organization (check Belak 2002, 74 and 38-39). Strategies (including GES) are only means to realize organizational mission and purpose, to achieve its

basic goals (compare Belak 2002, 144). About global strategic management see for example Biblio Service Rugman (2005), about managing executive attention in the global company read for example Birkinshaw and Bouquet (2007).

Let us try to link these findings with social environment changes usually in better or worse chances for humankind's sustainable future.

21.2 Environmental changes and globalization

In today's global competitive environment, any business, large or small, that is not thinking and acting strategically is extremely vulnerable (Zimmerer, Scarborough 2005, 68). Every business is exposed to the forces of the rapidly changing competitive environment... From sweeping political changes around the planet and rapid technological advances to more intense competition and newly emerging global markets, the business environment has become more turbulent and challenging. Operating in an international rather than a domestic arena (Mintzberg, Lampel, Quinn, Ghoshal 2005a, 272) presents to managers many new opportunities. Having world wide operations not only gives a company access to new markets and specialized resources, but it also offers new sources of information to stimulate future product development. And it broadens the options of strategic moves and countermoves the company might make in competing with its domestic or more narrowly international rivals. However, with all these new opportunities comes the challenge of managing strategy, organization, and operations that are innately more complex, diverse, and uncertain. Although Mintzberg, Lampel, Quinn and Ghoshal in this passage do not expose also the bigger possibility of many new threats, connected with globalization, we believe that uncertainty includes them in the most important reasons why many of (micro, small and medium size) companies do not try to operate in such an international arena.

In tomorrow's business world (Miles, Snow, Mathews, Miles, Coleman JR. 2005, 423) some markets will still be supplied with standard products and services, while other markets will demand large amounts of customization. However, the continued pull of market forces, and the push of ever-increasing know-how honed through network partnering, is already moving some industries and companies toward a continuous process of innovation. In many organizations this changes their culture, leadership and business policy, strategies, structures and program of development respectively requisite holistic development and business (planning) in (M)SMEs and big organizations. Recent changes in the international operating environment (Bartlett and Ghoshal 2005, 273) have forced companies to optimize efficiency, responsiveness and learning simultaneously in their world wide operations. For companies that have previously concentrated on developing and managing one of these capabilities, the new challenge implies not only a crucial strategic reorientation, but a major change in organization capability as well.

Fara, Kearney and Bell (2006) warn of overconfidence and poor timing of GES and action. On the contrary Ghemawat (2008) argues that a manager will see globalization as an option to be considered rather than an imperative to be automatically accepted. The author explores two broad approaches to evaluating global strategies: in terms of principles, and in terms of analyzing their implications for value (with the observation that value is the product of margins and volume). All these considerations led us to the conclusion that the described changes in the (international operating) environment caused the fact that nowadays international business arena rises to reality and necessity for many organizations. This is also the reason for exploring the terms globalization, globalizing, multi-domestic, and global. These are namely the open questions to which we have to find answers before we can start to research the GES planning.

According to Porter (Wheelen, Hunger 2005, 64-65), world industries vary on a continuum from multi-domestic to global. Multi-domestic industries are specific to each country or group of countries. This type of international industry is a collection of essentially domestic industries. The activities in a subsidiary of a multinational corporation (MNC) in this type of industry are essentially independent of the activities of the MNC's subsidiaries in other countries. Within each country, it has a manufacturing facility to produce goods for sale within that country. The MNC is thus able to tailor its products or services to the very specific needs of consumers in a particular country or group of countries having similar societal environments. Wheelen and Hunger further stated (ibid, 65) that global industries, in contrast, operate world wide, with MNCs making only small adjustments for country-specific circumstances. A global industry is one in which an MNC's activities in one country are significantly affected by its activities in other countries. MNCs produce products or services in various locations throughout the world and sell them, making only minor adjustments for specific country requirements... The largest industrial corporations in the world in terms of dollar sales are, for the most part, multinational corporations operating in global industries. Table 21.2.

- | |
|--|
| <ul style="list-style-type: none"> •1 Multi-domestic: Industry in which companies tailor their products to the specific needs of consumers in a particular country (e.g. retailing, insurance, and banking). •2 Global: Industry in which companies manufacture and sell the same products, with only minor adjustments made for individual countries around the world (e.g. commercial aircraft, automobiles, television sets, watches, and tires). |
|--|

Table 21.2: Continuum of International Industries (Wheelen, Hunger 2005, 65, adapted)

Whether to globalize and how to globalize (Yip 2005, 280) have become two of the most burning strategy issues for managers around the world. Many forces are driving companies around the world to globalize by expanding their

participation in foreign markets. Almost every product market in the major world economies – computers, fast food, nuts and bolts – has foreign competitors... Companies are also seeking to globalize by integrating their worldwide strategies. Such global integration contrasts with the multinational approach whereby companies set up country subsidiaries that design, produce, and market products and services tailored to local needs. Several changes seem to increase the likelihood that, in some industries, the global strategy (i.e. GES, N. B. authors) will be more successful than a multi-domestic one (Yip 2005, 280). One of these changes, as Levitt (1983) argues forcefully and controversially is the growing similarity of what citizens of different countries want to buy. Other changes include the reduction of tariff and non-tariff barriers, technology investments that are becoming too expensive to amortize in one market only, and competitors that are globalizing the rules of the game.

Globalization of industries (David 2005, 98) is occurring for many reasons, including a world-wide trend toward similar consumption patterns, the emergence of global buyers and sellers, e-commerce, and the instant transmission of money and information across continents. According to Yip (2005, 281) companies want to know how to globalize – how to expand market participation – and how to develop an integrated worldwide strategy. All three steps are essential. Multinational companies know the first two steps well. They know the third step less well since globalization runs counter to the accepted wisdom of tailoring for national markets (Douglas, Wind 1987 in Yip 2005, 281). Table 21.3. The most successful worldwide strategies (Yip 2005, 284) find a balance between over-globalizing and under-globalizing. The ideal strategy matches the level of strategy globalization to the globalization potential of the industry.

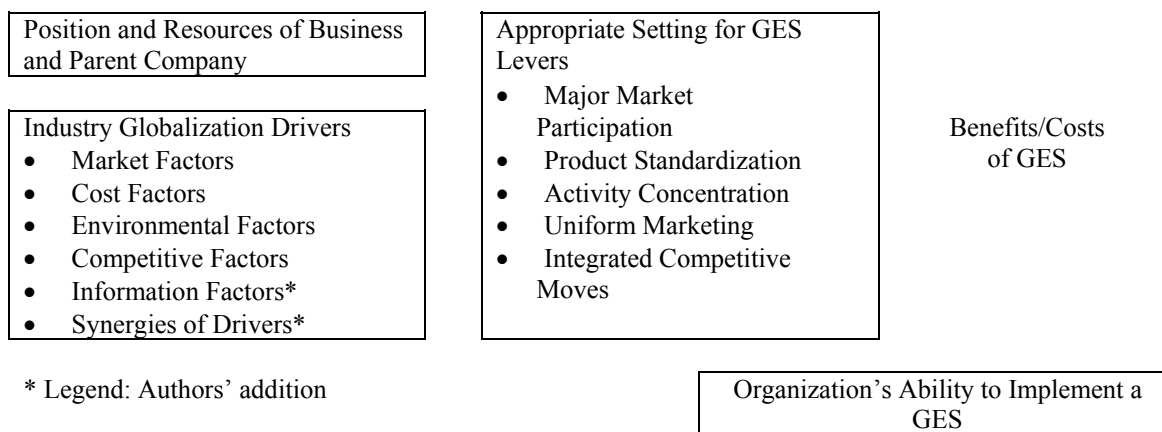
1. Developing the core strategy: the basis of sustainable advantage. It is usually developed for the country first.
2. Internationalizing the core strategy through international expansion of activities and through adaptation.
3. Globalizing the international strategy by integrating the strategy across countries.

Table 21.3: The three steps in developing a total world wide strategy (Yip 2005, 281)

As a result of cognition what is the meaning of globalization, globalizing, multi-domestic and global industry we have basic starting point for framework of GES process. We are interested in what influences GES process and what are benefits/costs of such a GES. We will investigate what potential organizations need to achieve the benefits of GES. We are also interested in whether there is a difference between strategic dimensions along a pure multi-domestic and a pure GES. All mentioned required comprehensions and also industry globalization drivers (industry conditions) were originally developed by Porter (1986).

21.3 Framework of global enterprise strategy (GES) process

Globalization (David 2005, 98) is a process of worldwide integration of strategy formulation, implementation, and evaluation activities. Strategic decisions are made based on their impact upon global profitability of the firm, rather than on just domestic or other individual country considerations. A global strategy (i.e. GES, N. B. authors) seeks to meet the needs of customers' world wide, with the highest value at the lowest cost. Table 21.4 lays out a framework of GES process – a framework for thinking about globalization issues.



* Legend: Authors' addition

Table 21.4: Framework of Global Enterprise Strategy (GES) Process (Yip 2005, 281, adapted)

Industry globalization drivers (underlying market, cost, and other industry conditions) (Yip 2005, 281) are externally determined, while GES levers are choices available to the worldwide business. Drivers create the potential for a multinational business to achieve the benefits of GES. To achieve these benefits, a multinational business needs to requisitely holistically set its *GES levers* (e.g., use of product standardization) and their synergetic interactions appropriately to industry drivers, and to the position and resources of the business and its parent company. The organization's ability to implement its GES affects how well the benefits can be achieved. And not the least, ability of implementation GES is influenced by the ability of innovation (also of GES). Innovation (Loeckenhoff 2008, 90)

constitutes the kernel of any development not restrained to predestined paths. It originates rejuvenation adapting to change and opening future potentials. Even if the enterprise is the actual place where future innovations are made and transferred into market and society, the preconditions for entrepreneurial innovation process are given by the corporation as a societal institution and the surrounding society. Within society, innovation emerges as a requisitely holistic phenomenon. To remain innovative, the corporate systems as well as society as a whole need to continuously innovate. Innovations capacities on any social level are closely connected. Entrepreneurial innovation may be seen as driver, indicator and symptom of societal innovation (and this leads to GES innovation, too [authors' addition]).

21.4 Strategic dimensions or “global enterprise strategy (GES) levers”, benefits and drawbacks of a global enterprise strategy (GES)

Setting strategy for a worldwide business (Yip 2005, 281) requires firms to make choices along a number of strategic dimensions or “GES levers” and their respective positions under a pure multi-domestic strategy and a pure GES (see Table 21.5). Intermediate positions are, of course, feasible and so are their emerging synergies. For each dimension, a multi-domestic strategy seeks to maximize world wide performance by maximizing local competitive advantage, revenues, or profits; a GES seeks to maximize world wide performance through sharing and integration. On this topic see also Hurt (2007) and compare also Rugman (2005).

To state a framework of planning GES stimulation and/or obstacle, we must research benefits and drawbacks of a GES. Users of GES can, according to Yip (2005, 283), achieve one or more of these benefits: cost reductions, improved quality of products and programs, enhanced customer preference, and increased competitive leverage:

1 Cost Reductions: A company can increase the benefits from economies of scale by *pooling production or other activities* for two or more countries. A second way to cut costs is by *exploiting lower factor costs* by moving manufacturing or other activities to low-cost countries. Or by *exploiting flexibility*: a company can move production from location to location to take advantage of the lowest costs at given time. Or by *enhancing bargaining power*: with suppliers, workers, and host governments etc. (because of switching production among different countries).

2 Improved Quality of Products and Programs: Concentration (focus) on a smaller number of products and programs can improve quality.

3 Enhanced Customer Preference: Global availability, serviceability, and recognition can enhance customer preference through reinforcement.

4 Increased Competitive Leverage: A GES provides more points from which to attack and counterattack competitors.

Setting for Pure Multi-domestic Enterprise Strategy	Global Enterprise Strategy (GES) Levers	Setting for Pure Global Enterprise Strategy (GES)
No particular pattern. Countries are selected on the basis of their potential for revenues and profits.	Market Participation	Countries are selected on the basis of their potential contribution to globalization benefits (e.g. home market of a global competitor). Significant share in major markets.
They are tailored to local needs. Fully customized in each country.	Product Offering	Standardized core product that requires minimal local adaptation (the most important benefit: cost reduction). Fully standardized worldwide.
All or most of the value chain activities are reproduced in every country. (In international strategy “exporting” most of the value chain is kept in one country).	Location of Value-Added Activities	Concentrated – one activity in each (different) country (costs are reduced by breaking up the value chain).
Fully tailored for each country, developed locally.	Marketing Approach	Uniform approach world wide (although not all elements of the marketing mix need be uniform).
The managers in each country make competitive moves without regard for what happens in other countries. Stand-alone by country.	Competitive Moves	Integrated across countries at the same time or in a systematic sequence.

Table 21.5: Global Enterprise Strategy (GES) Levers/Globalization Dimensions (Yip 2005, 281-283; adapted)

In analysis of the benefits of a GES we have to take criticism into account: the demonstrated Yip’s research is rather consistently carried through, but it doesn’t incorporate consideration about important (and required) organizational differentiation (for example in different phases of their life cycle or in different size classification). The surveyed benefits are also differently perceived by different organizations (consequently they have different importance for them) according to their (international) activities, legal forms, innovation preparation, business connections etc. and their capability of their exploitation. All these are very important facts for or against applying of GES and for or counter making choices along the discussion on strategic dimensions or “GES levers”. And the same is valid also for drawbacks

of a GES, presented below. And this is, as we see, a widely open window for very important further research. Synergies are further issues to be considered more carefully.

Each GES lever has particular drawbacks, resulting from GES levers (Yip 2005, 284, adapted):

- 1 Market Participation: A GES approach to *market participation* can incur an earlier or greater commitment to a market than is warranted on its own merits.
- 2 Product Offering: *Product standardization* can result in the product that does not entirely satisfy *any* customers. It can seldom satisfy all needs in all countries.
- 3 Location of Value-Added Activities: *Activity concentration* distances customers and can result in lower responsiveness and flexibility. It also increases currency risk by incurring costs and revenues in different countries.
- 4 Marketing Approach: *Uniform marketing* can reduce adaptation to local customer behavior.
- 5 Competitive Moves: *Integrated competitive moves* can mean sacrificing revenues, profits, or competitive position in individual countries, particularly when the subsidiary in one country is asked to attack a global competitor in order to send a signal or to divert that competitor's resources from another country.

If GES is not prepared and implemented requisitely holistically, GES has (according to authors' opinion) additional drawbacks on sustainable (development) future of humankind: the GES may have braking influences on it. Enterprises (may) not concern themselves enough about the economic imperative (wealth), ecological imperative (eco-efficiency), social imperative (quality of life) and ethical imperative (contemporary human values / culture, include ethics) – the four aspects of the sustainable future, taking into the consideration mother earth: climate change, natural and other disasters (see and compare Tavčar et al 2008, 80 and further), especially in their synergies. Authors therefore suggest systemic / requisitely holistic consideration as a precondition for the notion of sustainable (development) future to live, which includes survival of humankind's civilization of today on the planet Earth (Goerner et al, 2008).

In his work Yip doesn't distinguish different types of organizations: he doesn't investigate the influence of different spheres of activities (product line/business units, functions fields) nor leadership, corporate governance and/or top management (inclusively organizational philosophy, culture and ethic). Hence it ensues that such a study is required for determination of strengths and weaknesses of an organization. Commonly we define them on the basis of traditional business analysis: comparison with competitor organization (which is placed among GES levers in different context; this view is what we will also precisely discuss in passage 5). See European management models, for example Concept of integrate (integral) management from University of Maribor (Kajzer, Duh, Belak 2008, 159-172), University of St. Gallen (Bleicher 2004) or Hinterhuber's Model of strategic management (2004)), and American management models (for example Wheelen's and Hunger's Strategic management model (2006) or David's Comprehensive model of strategic management process (2005).

A very important viewpoint, that influences planning the GES, is industry in which an organization operates. Like organizations also industries have their life cycles, ascensions and declines, prosperities or recessions. All of these are very important for every organization, especially (yet more) (M)SMEs. So there is a very important open question: problem of industry conditions, which influences globalization. This is why the passage 21.5 is dedicated to industry globalization drivers.

21. 5 Industry Globalization Drivers (Industry Conditions)

To achieve the benefits of globalization (Yip 2005, 284), the managers of a world wide business need to recognize when industry globalization drivers provide them opportunity to use GES levers. These drivers can be grouped in four categories: market, cost, governmental, and competitive. Each industry globalization driver affects the potential use of GES levers. According to Yip (ibid, 287) industry globalization drivers provide opportunities to use GES levers in many ways. See tables 21.6-9.

Market Globalization Drivers depend on customer behavior and the structure of distribution channels. These drivers affect the use of all five GES levers.	
Homogeneous Customer Needs	Key is to understand which aspects of the product can be standardized and which should be customized.
Global Customers	Global customers buy on a centralized or coordinated basis for decentralized use. The existence of global customers both allows and requires a uniform marketing approach.
Global Channels	Channels of distribution may buy on a global or at least a regional basis. Global channels or middlemen are also important in exploiting differences in prices by buying at a lower price in one country and selling at a higher price in another country.
Transferable Marketing	Marketing elements, such as brand names and advertising, require little local adaptation. That enables firms to use uniform marketing strategies and facilitates expanded participation in markets.

Table 21.6: Industry Globalization Drivers: Market Globalization Drivers (Yip 2005, 285, adapted)

Cost Drivers depend on the economics of the business; they particularly affect activity concentration.	
Economies of Scale and Scope	A single-country market may not be large enough for the local business to achieve all possible economies of scale or scope.
Learning and Experience	Expanded market participation and activity concentration can accelerate the accumulation of learning and experience.
Sourcing Efficiencies	Centralized purchasing of new materials can significantly lower costs.
Favorable Logistics	A favorable ratio of sales value to transportation cost enhances the company's ability to concentrate production.
Differences in Country Costs and Skills	Concentration of activities in low-cost or high-skill countries can increase productivity and reduce costs, but managers need to anticipate the danger of training future offshore competitors.
Product Development Costs	Developing a few global or regional products rather than many national products can reduce product development costs.

Table 21.7: Industry Globalization Drivers: Cost Drivers (Yip 2005, 285-286, adapted)

Governmental Drivers: Government globalization drivers depend on the rules set by national governments and they impact the use of all GES levers.	
Favorable Trade Policies	Host government affects globalization potential through import tariffs and quotas, non-tariff barriers, export subsidies, local content requirements, currency and capital flow restrictions, and requirements on technology transfer. Host government policies can make it difficult to use the global levers of major market participation, product standardization, activity concentration, and uniform marketing.
Compatible Technical Standards	Differences in technical standards, especially government-imposed standards, limit the extent to which products can be standardized. Often, standards are set with protectionism in mind.
Common Marketing Regulations	The marketing environment of individual countries affects the extent to which uniform global marketing approaches can be used. Certain types of media may be prohibited or restricted.

Table 21.8: Industry Globalization Drivers: Governmental Drivers (Yip 2005, 286-287, adapted)

Again, the cited authors forget about synergies; this diminishes their requisite holism and makes them systematic, but not systemic.

Industry evolution also plays a role (Yip 2005, 288). As each of the industry globalization drivers changes over time, so will the appropriate GES change too. Probably also because of modern information accessibility Yip didn't take them into consideration; they are (from our point of view) summarized and introduced in Table 21.9. Information science is the reason, why globalization is in full swing nowadays; the internet made it feasible using joint information system for two or more organizations (for example buyer can see supplier stocks); because of information technology all disposable information are available whenever and wherever enterprises wants. The only condition is information technology and knowledge attainability. About managing global information technology see also Palvia, Palvia and Harris (2007).

Competitive Drivers are entirely in the realm of competitor choice. Competitors can raise the realization potential of their industry and spur the need for a response to the GES levers.	
Interdependence of Countries	A competitor may create competitive interdependence among countries by pursuing a GES. The basic mechanism is through sharing of activities. When activities such as production are shared among countries, a competitor's market share in one country affects its scale and overall cost position in the shared activities. Changes in that scale and cost will affect its competitive position in all countries dependent on the shared activities. Less directly, customers may view market position in a lead country as an indicator of overall quality.
Globalized Competitors	Matching or preempting individual competitor moves may be necessary. These moves include expanding into or within major markets, being the first to introduce a standardized product, or being the first to use a uniform marketing program.

Table 21.9: Industry Globalization Drivers: Competitive Drivers (Yip 2005, 287, adapted)

Although they are powerful, industry globalization drivers do not dictate one single formula for success. More than one type of international strategy can be viable in a given industry because of all these reasons (compare with Yip 2005, 288):

1. No industry is high on every one of the many globalization drivers.

2. The appropriate use of strategy levers adds competitive advantage to existing sources. These other sources may allow individual competitors to thrive with international strategies that are mismatched with industry globalization drivers.

3. A worldwide business may face industry drivers that strongly favor a global strategy (i.e. GES, N. B. authors). But global strategies are typically expensive to implement initially, even though great cost savings and revenues gains should follow. High initial investments may be needed to expand within or into major markets, to develop standardized products, to relocate value activities, to create global brands, to create new globalization units or coordination processes, and to implement other aspects of a global strategy (i.e. GES, N. B. authors). The strategic position of the business is also relevant. Even though a global strategy (i.e. GES, N. B. authors) may improve the business's long-term strategic position, its immediate position may be so weak that the resources should be devoted to short-term, country-by-country improvements.

4. Finally, factors such as organization structure, management process, people, and culture affect how well a desired global strategy (i.e. GES, N. B. authors) can be implemented. Organizational differences among companies in the same industry can, or should, constrain the companies' pursuit of the same global strategy (i.e. GES, N. B. authors). See Table 21.10.

Information Globalization Drivers arise from recent existent communication structure and its development. They affect the use of all five GES levers and their synergies.	
Global IT (information technology) capabilities	IT capabilities of the organizations can be measured in terms of the extent and importance of IT planning, the range and reach of their communications networks, and the level of IT support services they provide. Main drivers of global IT capabilities are global vision and business policy, human resources and information exchanges (compare King 2006, 78-79). Forms of IT capabilities: computers, e-mail, Internet access, and Web sites...
IT's mission related impact	Organizations must enhance their capacities in long-term IT planning, budgeting, staffing, and training; performance measurement; Internet and Web site capabilities; and the vision, support, and involvement of senior management (compare Hackler, Saxton 2007, 474).
The Internet and WWW (technology that enables e-Commerce)	The Internet (Demirdjian 2008, I) abolished some of the traditional barriers to entry in a number of industries. It also resulted in creating instant global markets for little known businesses. It has created a new, far less costly, distribution channel, which drove cost of distribution to minimal levels compared to traditional distribution channels. The creation of electronic commerce has profoundly changed rules of the game for competitors. Weak entry and exit barriers, instant global and national markets, and increasingly price transparency intensified competition. This Internet era has made price-competitive variables in many industries. The World Wide Web (compare Patel 2003, 50) consists of pages of information, of over a million Web servers, and an untold number of Web browsers: it is able to link Web pages dynamically (this is known as hypertext links or simply links) and combines computer network technology with hypertext to provide a "global information system".
Digital Economy (the dot com era)	The shift from industrial economy to cyber-age economy (Demirdjian 2008, I) where intellectual capital was replacing brick and mortar assets had created a new challenge for strategic planning... On-line methods (business-to-consumer or business-to-business [or business to government etc., authors' addition]) have challenged traditional marketing and distribution strategies.
e-Market (electronic market)	e-Market became (or will become) more and more necessity and also constraint from both competition, suppliers and also business partners. These are information systems that signify fictive space in which sellers and buyers do business electronically; they make possible electronic supervise and notify about supply and demand likewise electronic business. About e-Markets read for example Nenninger, Lawrenz 2002.
Information needs	While data than can become information are available and too many for anybody to digest and use all of them, a requisitely holistic planning and implementation of e.g. GES can and may not cover all of them, but rather select the crucial part of them. Selection depends on definition of information needs, which results from insight into more or less every part and viewpoint of the business process tackled in this contribution or even in this book. About information needs see Mulej et al 2000. Capacity to define information needs might start with information literacy (Petermanec, 2008).

Table 21.10: Information Globalization Drivers

Organizations (Francesco, Gold 2005, 2) are becoming increasingly global. Multinational corporations formulate global strategies to expand into new markets, reduce their dependence on expensive labor, restructure into network or virtual organizations, and capitalize on innovative international financial arrangements. At the beginning of the 21st century, increasing numbers and types of organizations transcend geographic, economic, political, and cultural

boundaries. The main reason to go global (Zimmerer, Scarborough 2005, 464) is not unlike the reason given by the legendary bank robber, Willie Sutton, who, when asked why he robbed banks, replied, "That's where the money is." The same is true for global business today. But: is this true also for (M)SMEs?

21. 6 Global Enterprise Strategy (GES) in (micro) small and medium sized organizations

Today (Zimmerer, Scarborough 2005, 464), the global market place is as much the territory of small, upstart companies, as it is that of giant multinational corporations. Powerful, affordable technology, increased access to information on conducting global business, and the growing interdependence of the world's economies have made it easier for companies of all sizes to engage in international trade... The new economic world order results from interaction of many dynamic forces. Culture, politics, and the basic social fabric of nations are evolving at an unprecedented pace; change is facilitated by technology and challenged by global economic and competitive forces... The world market for goods and services continues to expand, fueled by a global economy that welcomes customers with new wealth. Technology, which continues to become increasingly affordable and powerful, links trading partners together: whether they are giant corporations or individual owners of SMEs. The impact of globalization (Likierman 2006, 22) will only increase because understanding how others measure their performance gives us more opportunities to meet competition and work better with partners... It helps us turn what could be threat into a series of opportunities.

Small firms (Lawrence 2008, 89) are important for economic progress in many countries and contribute a large portion of jobs to the job pool. When compared with large enterprises (Antlova 2008, 7), SMEs have a simpler organizational structure with less specialized tasks, poor human, financial and material resources... When they want to survive they have to respond to longer term changes in the environment. The constant and rapid changes occurring in the markets force the small and medium companies to look for new ways how to survive and to be competitive. The customers make higher demands on the products they buy and on the other services. Products have to be introduced on the market faster and have to meet individual demands. In our opinion Yip (2005), who builds on Porter's thoughts (1986), in his research doesn't devote enough attention to the differences that originate in the size of organizations. In planning the GES it is necessary to take in consideration beside the industry globalization drivers (market, cost, governmental, competitive, and information) also the influence of the World Wide Web and information age we are facing today. This is the reason why we will try to introduce the theory about possible strategic developmental situations of small and medium sized organizations (SMEs), well formed by Obrecht (1998). We will suppose that information needs are well known and covered for the requisite holism of GES to be attained.

Obrecht explored how globalization affected SMEs, taking into consideration integration and differentiation points of view: necessity of differentiation for some organizations, opportunities and threats of globalization (1998, 157-160). Furthermore Obrecht developed models of different types of strategic developmental situations which result from different material and immaterial spaces; on their basis he explained the feasible developmental situations for SMEs (1998, 160-169). Market space is the sphere connected with merchandise stream; operating space is a space where organizations work (use their technological, human and financial resources); both are material. Cognition space is immaterial and it depends on comprehension by entrepreneurs and managers; it determines adjustment of vision – it contains new, integrative (sustainable) way of thinking: Table 21.11.

Operating space	global	3 Global SME with local market	4 Global SME with world (global) market
		1 Local SME with local market	2 Local SME with world (global) market
	local	Local	global
	local		
Cognition space			Market space

Table 21.11: Strategic developmental situations of SMEs (Obrecht 1998, 162)

Obrecht foresees possible global strategies also for SMEs. He thoroughly studied possible developmental situations for this kind of organizations (1998, 163-169). These are: local SME with local market (they have two possibilities: broadening of their local space and opening new local space); local SME with world (global) market (they also have two possibilities: SME export orientation is autonomous, or they help themselves with incorporation in merchant network); global SME with local market (their possibilities are SME as users of global know-how or SME as local acting suppliers of global organizations); and global SME with world (global) market (with possibilities of global SME as market niche player or global SME player following criteria of technological factors). About strategic planning

practices in profitable small firms see for example Meers, Robertson (2007).

21.7 Conclusions

Over the recent decades (Čančer, Potočan 2008, 18), business conditions have changed dramatically. In the modern global economy, everybody will have to be very competitive and hence innovative. Therefore, most humans, economies, and businesses must innovate, including our understanding of economics. The new challenges require a thorough innovation of work, including a holistic consideration and implementation of sustainable development... Sustainable development expresses the interdependence of economy and natural environment as the two essential bases of life. According to Ećimović et al (2007, 2008 a, b, c), Goerner et al (2008) and many authors referenced by them sustainable development must lead to sustainable future rather than becoming self-sufficient or even local only (see also Ećimović et al 2002).

Not too long ago, a business corporation could be successful by focusing only on making and selling goods and services within its national boundaries. International considerations were minimal. Profits earned from exporting products to foreign countries were considered frosting on the cake, but not really essential to corporate success... Today, essence has changed. Globalization, the internationalization of markets and corporations, has changed the way modern corporations do business. To reach economies of scale necessary for the low costs and thus the low prices, needed for competitiveness, companies now think of a global (worldwide) market instead of a national market. Instead of using one international division to manage everything outside their home country, large corporations use matrix structures in which product units are interwoven with country or regional units. International assignments are now considered key for anyone interested in reaching top management. As more industries become global, strategic management is becoming an increasingly important way to keep track of international developments and position the company for long-term competitive advantage (Wheelen, Hunger 2005, 5).

By close examination of framework for thinking about GES (process) we found GES levers for multi-domestic and/or GES, description of benefits and drawbacks of GES, market globalization drivers, cost drivers, governmental drivers, competitive drivers, and information drivers. They usually work in synergies, but the latter are poorly covered in references we have learned from. Our critical remark to the studied texts is that their authors did not link strategic (global) operations of organizations with very essential starting point for it: for such an activity we need vision, business policy and leadership: “Companies that are enacting a global strategic vision exchange their resources [author distinguishes four types of resources: physical, information, human and financial] among national entities on a regular, as well as an “as needed” basis... These exchanges are much more common than are exchanges of products, raw materials, machinery etc.” (King 2006, 78). It seems that (as in many life situations) the specialists of particular fields sometimes don’t take into consideration systemic connectedness of selected fields of business process and the necessary close link-up of an organizational business with its development. Developmental starting points, however, are (from the integral management model view) determined on the level of business policy and suchlike owners starting point used by top managers in strategic management. And as the values belong inside the starting points and have important impact on the business policy, also considering the environmental-problem solving in the framework of GES results from them. Ećimović, Mulej, Mayur and coauthors (2002, in Mulej at al 2007, 116) stated that environmental problems are, first of all, mental problems – they result from current human knowledge and values. In there, there is a lack of systemic, i.e. requisitely holistic thinking and feeling, which should replace the exaggerated narrow specializations by adding to the unavoidable specialization of profession and location of living the equally unavoidable capability of interdisciplinary creative co-operation and long-term thinking rather than the short term one only. This is why the authors suggest providing the sustainable future as inventions aimed to become innovations and emphasize the crucial role of systems thinking (Table 21.12, the left column) and the “law of requisite holism” (Table 21.1, the middle column).

No.	Systems / Systemic / Holistic thinking	Un-systemic / Traditional Thinking
1	Interdependences, Relations, Openness, Interconnectedness, Dialectical System	Independence, Dependence, Closeness, A single viewpoint / system
2	Complexity (& Complicatedness)	Simplicity, or Complicatedness alone
3	Attractors	No influential force/s, but isolation
4	Emergence	No process of making new attributes
5	Synergy, System, Synthesis	No new attributes resulting from relations
6	Whole, Holism, Big Picture, Holon	Parts and partial attributes only
7	Networking, Interaction, Interplay	No mutual influences

Table 21.12: The seven interdependent basic sets of terms of systems / systemic, holistic vs. Un-systemic thinking (as a dialectical system) (Mulej at al 2003 in Mulej at al 2007, 149, also Ženko at al 2008, 145)

Among many world-wide acknowledged models of integral management we have already exposed authors Kajzer, Duh, Belak (2008), Bleicher (2004), Hinterhuber (2004), Wheelen and Hunger (2006) and David (2005). They nevertheless take abovementioned systems connection into account or at least point out. But we have to be aware that also each of these models presented only a partial (although more integrative) view of organizational development and

business, dependent on subjective viewpoints of cooperating authors and schools. And so they are only a framework for precise investigation of an organization. All presented models verified hypothesis we set at the beginning: for the strategy of any kind we have to establish vision and business policy first (mission, purpose, basic goals of the given organization) without regard to its size – also for (M)SMEs, and we must match the law of requisite holism to succeed. Reasonably this is valid also for GES. Each strategy (compare Kajzer, Duh, Belak 2008, 167) is namely a footpath for achieving a business policy, which stockholders determined in accordance with their philosophy, culture, ethics and interests. Lack of systemic thinking (Ećimović, Haw, Dobrila 2008b, 35) on the part of the most influential persons and their organizations in the contemporary world is a serious threat to the climate. The climate change, as is visible today, may lead to the end of our civilization.

Certainly, despite all extensiveness of these preliminary proceedings there are many questions still open, and it would make sense to find answers to them. The fields that would be reasonable to investigate more are, for example, deep research and application to (M)SMEs: when and under which circumstances are “GES levers” and industry globalization drivers true also for (M)SMEs; why are some (M)SMEs too much tied to their local environment; can they use the same framework of GES process; what are their benefits/drawbacks; are for them industry globalization drivers (industry conditions) also equally important; which ones are so, more and/or less; why etc. It would be important to investigate also the key external and internal factors that influence decisions of (M)SMEs for or against GES in different national economies: “The emergence of world-class companies from developing nations is a shift that portends a new global game” (Charan 2006, 47). Peng, for example, with his strong scholarly focus in his textbook *Global strategy* (2006) introduces in part I foundations of global strategy and presents also cultural and ethical issues. Synergy, entrepreneurship and ecology are also identified as key success factors of an enterprise (Kajzer, Duh, Belak 2008, 167). So it would be important to investigate them in the meaning of GES too (as well as in the meaning “how the humanity will organize for better sustainable future”).

Summarized, we can conclude from presented research that the global enterprise strategy (GES) is a trend of the modern world and we explored globalization issues that compound a framework for thinking about GES. By the close examination we found GES levers for multi-domestic and/or GES, description of benefits and drawbacks of GES, market globalization drivers, cost drivers, governmental drivers, competitive drivers, and supplemented them with information drivers. A hypothesis we confirmed is that although planning (global) strategy is a part of very important starting points for organizational survival, existence, and development, and business activities results from leadership, vision and business policy. This is why for the strategy of any kind we have to establish vision and business policy first (mission, purpose, basic goals of an organization) without regard to rank of an organization. Reasonably this is valid also for GES. Each strategy is namely a footpath for achieving a business policy. This includes efforts for sustainable future, but much more can be attained with requisite holism than with one-sidedness of monitoring, perception, thinking, emotional and spiritual life, decision making and action.

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22. Tradable permits versus taxes in theory and practice

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Abstract:

The contribution is complementary to the other contribution of the same author in this book. It summarizes the theoretical backgrounds of taxes and tradable permits. It presents and compares both market-based instruments and concludes with the comparison of the quantitative and qualitative differences/similarities of the two.

Key Words: Tradable permits, Taxes, Externalities, Economic theory, The Coase theorem, Pigouvian taxation,

22.1 Introduction

Pollution taxes and tradable pollution permits are, in principle, very similar policy instruments. They both rely on price signals and incentives for emitters to reduce the costs they impose on society (Norregaard et al., 2000). Both tools use the price system to internalize environmental damage, are flexible and cost-effective as formally demonstrated by Baumol and Oates (1988). Although they are similar, there are specific differences between the two. Since tradable permits have been gaining in importance recently, the specific advantages and disadvantages of each instrument are studied and summarised in this article.

Economists consider the dominant problem of pollution to be a result of »market failure«. The *externalities*, which are the incidental effect of over production or over consumption activities which were to be regarded as an *economic problem* because these external costs were not reflected in the actual market costs or prices of the products or services. The external costs are not being reflected in the decision making processes within the market system. They are a result of less than efficient utilisation and/or allocation of resources and manifest themselves in the erosion of the economic wellbeing of society as a whole. The solution suggested by economists is to ensure somehow that external costs are internalised, e.g. by market-based instruments such as taxes, tradable permits etc., in order to correct the »market failure« and assure normal functioning of the market mechanisms.

22.2 Externalities

Ledyard (1987) notes that 'the best way to understand market failure is first to understand market success'. The market system is considered successful when a set of competitive markets generates an efficient allocation of resources between and within economies. Efficiency is defined as Pareto optimality - the impossibility of reallocating resources to make one person in the economy better off without making someone else worse off. If consumers and producers are rational so that they maximize their private net benefits, a set of markets where each person has the opportunity to exchange every good with every other person will generate a socially optimal allocation of resources. The theorems of welfare economics summarises the major benefits of markets on social welfare, of which the first fundamental theorem is of most concern for market failure. The first theorem says that if:

- 1 a complete set of markets with well-defined property rights exists so that buyers and sellers can exchange assets freely for all potential transactions and contingencies;
- 2 consumers and producers behave competitively by maximizing benefits and minimizing costs;
- 3 market prices are known by all consumers and firms; and
- 4 transaction costs are zero so that charging prices do not consume resources;

then the allocation of resources will be a Pareto optimum.

A market failure occurs when the conclusions of this theorem do not hold, and the allocation of resources is inefficient (Bator, 1958).

Meade (qtd. in Button, 1993) defines an externality as an event, which confers an appreciable benefit (inflicts an appreciable damage) on some person or persons who were not fully consenting parties in reaching the decision or decisions that led directly or indirectly to the impact produced (Button, 1993). The essential feature of this concept is that the impact is an unintended by-product of some otherwise legitimate activity (Mishan, 1971). The impact also does not carry with it any recompense (for beneficial impacts) or penalty (in case of harmful impacts) for the generator (Perman et al., 2003).

From the above definition two important characteristics of externalities can be outlined:

- 1 Interdependency or interaction among the decisions of economic agents,
- 2 No compensation is paid (Button, 1993).

Making a more formal definition of an externality, it can be said that an externality exists when the consumption or production activities of one individual or firm affect another person's utility or firm's production function so that the conditions of optimal resource allocation are violated (Button, 1993).

An important distinction can be made between private and public good externalities (Button, 1993). Public good externalities have the characteristics of rivalry (one agent's consumption is at the expense of another's consumption) and excludability (agents can be prevented from consuming) (Perman et al., 2003). Private good externalities involve depletable resources (one person suffering the noise of a passing vehicle means others some distance away do not) while the public good externalities are about undepletable resources (one person's inhalation of leaded air does not prevent others from inhaling it) (Button, 1993).

The best way to solve the problem of externalities is to provide a set of complete markets. This is a set of markets where prices ration resources to those who value them the most and no central decision maker is needed to allocate resources. In such a set of markets, optimal individual decisions based on mutually advantageous exchange will lead to (Pareto) optimal social outcomes and there will be no externalities (Hanley et al, 1997).

In such a setting it is possible to create (without costs) a well-defined property rights system such that a market will exist to cover any exchange necessary (Hanley et al., 1997). This well-defined property rights system represents a set of social arrangements that govern the ownership, use and disposal of resources, goods and services (Parkin, 2000). In order to achieve this, the economic theory proposes government intervention. While there are several different forms of government intervention that may be deemed to be appropriate in dealing with the externalities, there are two distinct traditions that can be perceived:

- Pigou (qtd. in Munday, 1996) proposes an approach which attempts to tax the value of the externality. This may be referred to as 'internalising the externality'.
- Coase (1969) offers an alternative approach that tries to increase the domain of property rights, so that the environment has legally identifiable owners.

However, as with all forms of government intervention, there is the possibility of a government failure. Thus, the likelihood of a more efficient use of resources due to government intervention may not be the case in practice (Munday, 1996).

22.3 Pigouvian taxation

The traditional way to deal with externalities is by imposing a unit tax (Pigouvian tax) on the externality-generating activity in order to internalize it (Baumol et al, 1988). The tax should be equal to the marginal social damage caused by the externality (Nadeau, 2003).

The economic rationale of Pigouvian taxes is based on the work of Pigou (1946) who pointed to the divergence between social and private costs (Crals et al., 2005). Social costs include all the relevant costs for the society. Private costs are a part of these costs that arise when a firm produces something (raw material costs, labour costs, energy costs etc.). These are relevant to a firm when it defines the appropriate market price. However, it seems likely that there may be other costs incurred by society due to the firm's production (like air pollution costs). The problem is that these are not costs that the firm has to pay when producing its output and are therefore not relevant to the firm's pricing decision. Thus the market price for the output is likely to be too low compared to the full cost incurred by society, and there will be over-production and over-consumption (Munday, 1996).

Since human institutions can interfere with the lawful dynamics of market systems, Pigou suggests that the government must take some limited action to control the play of economic forces in such ways as to promote economic wellbeing and, through that, total wellbeing (qtd. in Nadeau, 2003). It has to impose a tax in order to resolve the divergence between the private and external costs and thus internalize the externality.

However, when using taxes to internalize the externality in practice, the theory of optimal taxation indicates that the fundamental principle has to be to attempt to minimise the deadweight loss of a tax (the loss of economic welfare due to the distortion caused by the introduction of a particular tax), while at the same time achieving the equity standards for the tax system set by society (Munday, 1996).

Pigouvian taxes are considered to be a feasible instrument for controlling externality-generating activities and restoring social efficiency (Buchanan qtd. in Goel et al., 1997). It is believed that the implementation of a set of corrective Pigouvian taxes in an economy with externalities can achieve a Pareto optimal resource allocation (a state where it is impossible to reallocate resources to enhance the utility of one economic actor without reducing that of another (Nadeau, 2003)). However, this only holds if neoclassical assumptions about technology, consumer behavior and market structure hold (Krutilla, 1991).

In the example of air pollution, Pigouvian taxes will set a charge per unit of emissions equal to the total value of the damage caused by one extra unit of emissions (Pigou qtd. in Norregaard et al., 2000). This will provide incentives for emitters to internalize the full costs of their actions (private plus external) (Stavins², 2004). In this way they are encouraged to reduce emissions up to the point where the profit/loss due to a unit reduction in emissions is equal to the damage involved (Norregaard et al., 2000).

The idea of the Pigouvian tax is best illustrated by Figure 22.1.

In Fig.22.1 the marginal social costs (MSC) are obtained when all the marginal costs of externalities are added to the marginal private costs (MC). The demand curve (D) is also the marginal benefit curve (MB). In a competitive and unregulated market, equilibrium occurs at price P_0 and quantity Q_0 . Consumers will balance their own marginal cost (MC) against their own marginal benefit (MB). At this point the marginal social costs ($SC_0 - P_0$) are the marginal costs

imposed on others or the marginal costs of externalities (Parkin, 2000).

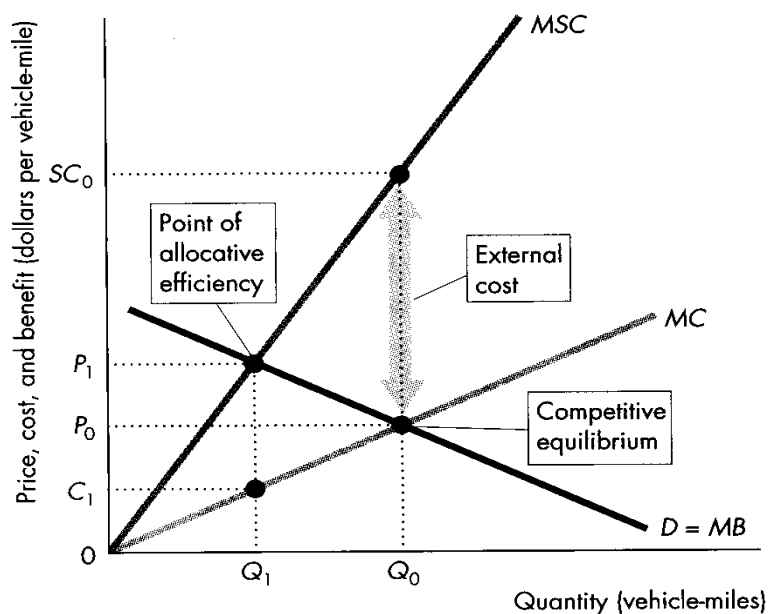


Figure 22.1: Taxing a negative externality (Parkin, 2000)

Suppose the government sets a tax equal to the marginal cost of externalities of a particular production. By imposing such a tax, the government makes the producers incur MC equal to the MSC. The market supply curve is now the same as the MSC curve. The price rises to P_1 , and at this price the consumed quantity of a particular good is Q_1 . The MC of the resources used in producing Q_1 is C_1 , and the marginal external cost is $P_1 - C_1$. That marginal external cost is paid by the consumer through the tax. The situation at price P_1 and quantity Q_1 is efficient. At a quantity greater than Q_1 , net benefit increases by decreasing the quantity consumed and at a quantity less than Q_1 , net benefit increases by increasing the quantity of a product consumed (Božičnik, 2002).

One important point to note about this analysis is, that the activity that generates the negative externality has not been stopped altogether, but reduced to what may be considered the most desirable level when viewed from the perspective of economic efficiency (if the cost of the externality is considered to be acceptable in order to gain the benefit of the good produced, then the economic approach would suggest the existence of a certain amount of that externality - e.g. air pollution) (Munday, 1996).

It is evident that a tax set equal to the external cost will, in theory, lead to the optimal level of production and emission reduction. But a complete internalization by means of Pigouvian taxes can only succeed if there is a system (i.e. regulation) that generates not only accurate information on the external costs and the activities by which they are caused, but also on associated utilities, damages and marginal costs (Paulus qtd. in Crals et al., 2005). However gathering this information in practice may prove to be intrinsically difficult and require considerable scarce resources (Munday, 1996). Since these requirements are never met in practice, Pigouvian taxes are more of a theoretical benchmark than an effective policy device (Paulus qtd. in Crals et al., 2005).

A common critique in the literature on the Pigouvian tax prescription has focused on the underlying market-structure assumption (Buchanan qtd. in Goel et al., 1997). It is assumed that no market failures exist and there are no market distortions due to monopoly or oligopoly existing in the markets concerned (Munday, 1996). Evidence shows that under different market structures Pigouvian taxes will not necessarily increase social well-being. A study made by Goel and Wei-Te Hsieh (1997) showed that under perfect competition Pigouvian taxes will increase social well-being (Buchanan qtd. in Goel et al., 1997). When the cases of monopoly or Cournot oligopoly are considered a higher tax will only correct externalities and increase social well-being in case of a small competitive distortion (Goel et al., 1997). From another analysis made by Buchanan it is evident that a Pigouvian tax could actually reduce social well-being when levied on a monopolizing firm (because it reduces environmental damage and further lowers output which is already suboptimal) (Buchanan qtd. in Krutilla, 1991). The problem in not perfectly competitive situations is that, even in the event of a successful internalisation of the externality, there will not be an optimal solution, if a market is not perfectly competitive, as marginal cost will not be equal to price (Munday, 1996).

22.4 The Coase theorem

Coase (1996) argued that the introduction of Pigouvian taxes was not the best way to deal with the problem of externalities (Munday, 1996). He objected to the use of any environmental tax or subsidy that would have an adverse distributional impact or that would impose economic burdens not directly related to, or a function of, specific economic

activities (Nadeau, 2003).

The essence of the environmental problem, according to Coase, is that no one owns the environment - which disallows the prospect that the lawful mechanisms of market processes can resolve these problems (Nadeau, 2003). His suggestion on how to internalize negative environmental externalities was to try to introduce property rights which relate to the right to make use of a resource and can be private, in the sense of belonging to an individual, or communal, in the sense that they are shared (Button, 1993). By introducing property rights, the externality would be internalized entirely through the operation of the market (the market would eliminate undesirable uses (Nadeau, 2003)), rather than relying on government intervention (Munday, 1996).

Coase developed the so-called Coase theorem, which proposes that if property rights exist and transaction costs are zero, private transactions are efficient and there will be no externalities (Parkin, 2000). In this situation parties will bargain to the same efficient outcome regardless of the initial allocation of property rights (Schmitz, 2001). Bargaining parties will offer bribes for abstention to the generator of environmental problems (Coase qtd. in Mumey, 1971). The bribe becomes an implicit cost for the generator (Mumey, 1971). In this way the externalities can be efficiently removed without direct government intervention and (Hanley et al. 1997) the Pigouvian argument that the government needs to use taxes and subsidies to internalize externalities becomes unsatisfactory. In this analysis the actions of a government allocating property rights and also of a court that enforces the agreements reached with bargaining are taken for granted (Dixit et al., 2000).

Coase's argument that there are no transaction costs enabled him to extend the analysis from two party externalities to larger groups as well as to public evils like air pollution. If transactions are costless, the increased number of participants has no effect on the transaction costs (Dixit et al., 2000). In such a setting all that matters is that the rights of the various parties are well-defined and the results of legal actions easy to forecast. But the situation changes when market transactions are so costly as to make it difficult to change the arrangement of rights established by the law (Coase, 1969).

22.5 Tradable permits

Within the wide range of policy instruments to reduce emissions, transferable permits are currently gaining interest. They have been analysed largely in the literature from a general and theoretical perspective

The economic theory behind pollution permit markets can be traced back to the work of Coase (1960) on external costs. The theoretical development is continued (after Coase) by Dales (1968) on regulating water use, and on the formalization of pollution permit markets by Montgomery (1972).

A tradable permit can simply be defined as a transferable right to a common pool resource (Ellerman, 2005). Under a tradable permit system, an allowed overall level of pollution, $\bar{E}$, is established, and allocated among sources in the form of permits. Polluters who keep emission levels below their allotted levels may sell surplus permits to other polluters or use them to offset excess emissions in other parts of their operations. Let q_{0i} be the initial allocation of emission permits to source i , such that:

$$\sum_{i=1}^N q_{0i} = \bar{E} \quad (1)$$

Then, if p is the market-determined price of tradable permits, a single firm's cost minimization problem is given by:

$$\min_{\{r_i\}} [c_i(r_i) + p \cdot (u_i - r_i - q_{0i})] \quad (2)$$

$$s.t. \quad r_i \geq 0 \quad (3)$$

The result for each source is:

$$\frac{\partial c_i(r_i)}{\partial r_i} - p \geq 0 \quad (4)$$

$$r_i \cdot \left[\frac{\partial c_i(r_i)}{\partial r_i} - p \right] = 0 \quad (5)$$

Equations (4) and (5) together imply that each source (which exercises a positive level of control) will carry out abatement up to the point where its marginal control costs are equal to the market-determined permit price. Hence, the environmental constraint, $\bar{E}$, is satisfied and marginal abatement costs are equated across sources, satisfying the conditions for cost-effectiveness (Stavins¹, 2004). The unique cost-effective equilibrium is achieved independent of the initial allocation of permits (Montgomery, 1972), which is of great significance.

A system of transferable permits equalizes the marginal costs of reduction between all emission sources. Under certain assumptions this is a sufficient condition for minimizing the cost of achieving a given emissions reduction objective (Baumol et al., 1988). This result is obtained independently of the initial allowance of the rights, which makes it possible to separate the questions of efficiency and equity. However, Stavins (1995) has shown that when transaction costs are involved—the search for partners for the exchange, negotiation, decision-making, follow-up and compliance with the rules—the initial allocation of rights affects the final balance and the total cost of reducing emissions. The authorities may therefore attempt to reduce these transaction costs, for example by avoiding finicky regulations or by facilitating the activity of intermediaries between vendors and purchasers (Hahn¹ et al.).

The performance of a tradable permit system can be adversely affected by: concentration in the permit market (Hahn, 1984; Misiolek et. al., 1989); concentration in the product market (Maleug, 1990); non-profit-maximizing behavior, such as sales or staff maximization (Tschirhart, 1984); the pre-existing regulatory environment (Bohi et al., 1992); and the degree of monitoring and enforcement (Montero, 2003).

Significant applications of the tradable permits include: the emissions trading program (Tietenberg, 1985; Hahn, 1989); the leaded gasoline phasedown; water quality permit trading (Hahn, 1989; Stephenson et. al., 1998); CFC trading (Hahn et. al., 1989); the sulphur dioxide (SO₂) allowance trading system for acid rain control (Schmalensee et al., 1998; Stavins, 1998; Carlson et al., 2000; Ellerman et al., 2000); the RECLAIM program in the Los Angeles metropolitan region (Harrison, 1999); and tradable development rights for land use (Stavins, 2004.)

22.6 Differences between taxes and tradable permits

The two instruments have many similarities, but there are also some differences which will be pointed out briefly now.

From the practical point of view, the majority of countries engaging in the use of economic instruments for environmental policy purposes have relied much more on taxes than on tradable permits. The reason is presumably that taxes constitute a more familiar tool than permits — a tool that can be implemented through an existing administrative apparatus. Tradable permits, in contrast, are a new, promising, economic policy instrument with which governments and their administrations are far less familiar.

22.6.1 Efficiency of the two instruments

The differences between the operating principles of tradable permits and taxes are presented in Figure 22.2.

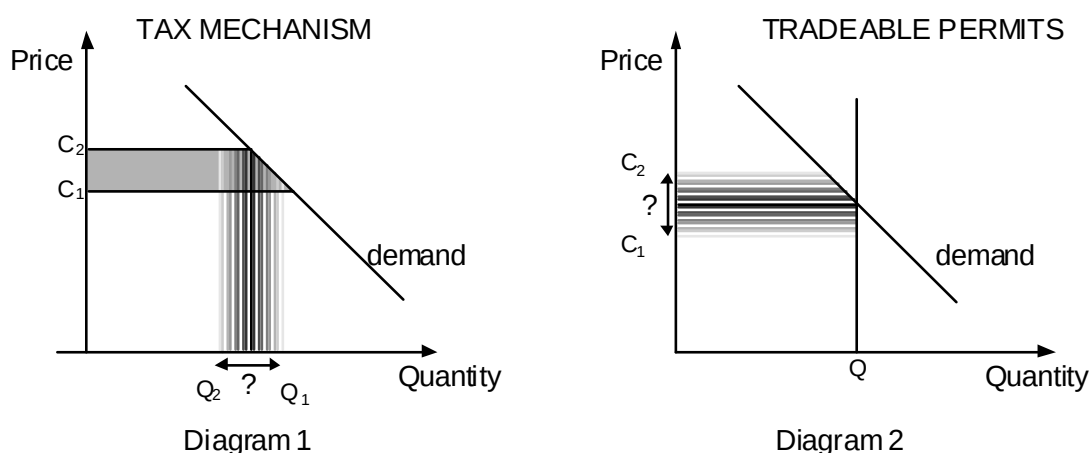


Figure 22.2: Tax mechanism and tradable permits

The diagram 1 of Fig. 22.2 clearly illustrates the essence of tax mechanism. Taxes are determined by experts and declared by law. They are in practice determined in percentages as an additional financial burden on the resource, product or service concerned. With the imposed tax, the basic price of a product or service (C_1) increases by exactly the level of the tax percentage imposed to a new price level (C_2).

Before the introduction of the new tax, the legislator in principle can never exactly know what will be the exact consequences of the imposition of the new tax burden i.e. the actual decrease in demand of the product or service concerned (Elasticity of demand). Based on the estimated elasticity of demand it is possible to assess roughly, that the consumption will range, in the longer run, roughly between Q_1 and Q_2 (Diagram 1); however, the actual quantity will

depend upon actual market situations, type of resources (goods/services) concerned etc. In extreme cases, when dealing with a rigid elasticity of demand, the final effect of the tax imposition would be redistribution of income, which would mean that no (substantial) decrease in demand would occur. (The case of a few percentage-point changes in fuel prices).

Diagram 2 of Fig. 22.2 symbolically illustrates the functioning principles of the tradable permits system. The effects of the introduction of a tradable permit system are diametrically opposed to those observed with the tax mechanism. With tradable permits the target quantity (e.g. CO₂ emissions, fuel consumption etc.) is definitely limited (by the quantity of the issued tradable permits), but the exact level of the market price, which of course depends upon a specific market situation, fluctuates according to the actual level of supply and demand of the resources (product/services) concerned. Given a limited quantity of issued tradable permits, the available quantity of production/consumption of the resource (goods/services) concerned is precisely limited. For the fixed and limited quantity Q , (Diagram 2 of the figure 22.2) the price will range between C_1 and C_2 depending upon the specific market situation, the coefficient of demand elasticity etc.

22.6.2 Initial level of the tax (financial burden) assessment

The determination of a specific tax rate requires comprehensive expertise and is often a political problem as well. The anticipated aim (desired change in demand/supply) can be successfully achieved only by means of tests, i.e. experimental introductions of different tax burdens. The most efficient tax rate can be approximately defined through interpolation of results acquired with experimental introductions, which is in practice not an easy task (and, indeed, often not possible). However even the most optimal tax rate is, in the course of time, subject to dynamic changes depending upon demand and supply fluctuations on the market.

By means of tradable permits, the target limits for consumption/production are set from the beginning, according to previously specified goals. The quantities of production/consumption are limited (are realized) in exactly foreseen amounts. The most realistic static indicator for a correctly determined tax level is (in theory and in practice) the actual price of the tradable permit on the market, measured at any specific point in time.

22.6.3 The financial effects of both instruments

In the case of taxes, the sum of charges collected flows into the state budget. There is a significant conceptual difference in the case of tradable permits. The polluter, as owner of the tradable permit, is directly stimulated to reduce pollution since he/she is able to sell the unused permits on the market, provided the tradable permit is not consumed and pollution is reduced. In this way the polluter is directly incited to behave rationally. In this case we are dealing with a complex system solution, which in the free market environment, forces market subjects towards the rational and desired behavior. The negative aspect of this option is decreased budget income. (Auctioning of the tradable permits is one of the methods of compensating for decreases in budget incomes.)

22.6.4 Different impacts on different income level groups

An important difference between tax mechanisms and tradable permits is the different impact on different income level groups (market subjects). In the case of taxes, the higher income levels groups will be less affected than the lower income level groups (market subjects). Very often, the higher income level groups will not change their behavior

The system of tradable permits operates on quantitative principles. In the case of a free distribution starting system, each market subject receives the same quantity of tradable permits free of charge. All the market subjects are equally affected and equally restricted. A certain level of consumption is granted to all the existing market subjects. But bigger consumption/quantities later become available in the system under the free market conditions (higher market prices) for all market subjects who need additional quantities of tradable permits.

22.6.5 Dynamic adjustment to market conditions

The price of tradable permits changes dynamically, due to the interaction of supply and demand at any given point in time. The price of tradable permits reacts dynamically to the actual market conditions. Taxes are normally introduced by the government (parliament). They are not dynamically adjusted to the changing market situation and conditions and remain in force (at the same fixed level) as long as the legislator does not change or abolish them. It is often the case that rigid tax mechanisms can therefore be ineffective or even inhibitory.

22.6.6 Different aims of control mechanisms introduction

On general it may be stated that very often the primary motives for introducing or amending taxes are governed by the need to raise budgetary revenues. The impact on supply/demand is often of secondary importance. The introduction of tradable permits is always aimed at changing certain undesired market behavior.

22.7 Conclusions

It may be concluded that both instruments, taxes and tradable permits, are useful and efficient market-based instruments appropriate for the internalization of external costs, i.e. instruments for eliminating “market failures” (see e.g. Crals et al., 2003; Kumi, 2002; Ellerman, 2005; Shrestha, 1998; Adar et al., 1976; Weitzman, 1974; Baumol in Oates 1988;

Tietenberg, 1994; Verhoef, 1996).

Each instrument has its advantages and disadvantages. The specific aims of the economic policy, the economic environment and the actual circumstances are the decisive factors in the decision-making process when opting to use either of these instruments.

In general it may be suggested that in situations in which both instruments can be applied, the tradable permits have in practice proven that they can assure optimal market distribution of the scarce resource within the fixed and foreseen quantities, while by the application of the tax system, fixed quantities of consumption/production of the resource under consideration are not granted, they can be only estimated.

Emission tax and a permit system are equivalent in terms of their ability to encourage the search for new cleaner technologies, provided that the permits market functions properly. When the output market is non-competitive, neither instrument is efficient.

From the polluter's perspective, freely allocated permits are clearly preferable to an emission tax and/or auctioned permits: they transfer costs to persistent polluters. Obviously, the political considerations associated with the use of an emission tax and/or a system of tradable permits will also depend on how the revenues raised are supposed to be spent.

We can conclude that the two instruments have many similarities and no obvious result seems to emerge concerning which instrument is preferable to the other. From a practical point of view, the majority of countries engaging in the use of economic instruments for environmental policy purposes have relied much more on taxes than on tradable permits. The reason is presumably that taxes constitute a more familiar tool than permits—a tool that can be implemented through an existing administrative apparatus. Tradable permits, in contrast, are new policy instruments, which have a lot of promise, but with which governments and their administrations are less familiar (Norregaard in Reppelin-Hill 2000, 32).

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23. The challenges of global governance for a sustainable (development) future

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Abstract:

The transition from a non-sustainable current reality to sustainable future is badly needed, but it requires a new global governance structure. The international order is increasingly borderless, but institutions for control over it are not in place. There is still a lot of 'frontier-mentality'. There is a lack of international democracy, a lack of coordination across policy areas, we have no international tax gathering and inspection systems, no common systems of resource accounting and auditing of environmental 'stocks', and too much western affluent peoples' influence over the entire world. Priorities in facing and fighting such and other related problems are suggested in this contribution.

Key words: global governance, sustainable future

23.1 Introduction

The human civilization in the beginning of the new millennium is in serious search for sustainable future development model and such a model requires a new global governance structure. The global governance is need of the hour, for the New International Order is emerging in such a way that the nation states are exponentially giving ways to the policies of the borderless world. As such the global problems have become interrelated and cannot be dealt with in isolation even by the most powerful countries. These problems force us to recognize the pressing need for better governance of vital environmental resources involving all the stakeholders and innovation in managing the societal process. The need of the hour is the integration of economic, environmental, and social objectives to achieve a harmonious, human-ecological balance. This means co-operation among various sectors (government, business and voluntary/community sector organizations) both internally and internationally. In other words, we need to nest various institutions at all levels within the framework of local, regional, national and international regulations, standards, accountability and shared values concerning processes and policy outcomes. Action by the state alone will not resolve these problems. Partnership is required—governments working with business, the research community and the voluntary sector at all levels, with which we can improve their management. All set out ideas for action which will take us towards sustainable future of these fundamental resources, and which can enhance their governance at international, national and local levels.

23.2 Defining Governance

It is important to understand what is implied by the term *governance*, and to distinguish it from *government*. The governance must be distinguished from the government. Popularly these two terms are used interchangeably: for example, the Oxford Dictionary refers to 'the manner or act of governing, of exercising control or authority over actions of subjects; a system of regulations'. In other words, the emphasis is on how people are ruled and how the affairs of state, or interstate affairs, are administered or regulated. However, because of the very nature of the problems discussed here, and the evolving nature of the world system, good governance cannot be achieved by governmental or inter-governmental activity alone. The 'world system' could be as the world economy with players which could be states, companies or multilateral or other organizations. Governance, then, can be understood as referring to national political *systems* and international political relations and their functioning in relation to law, public administration and democratic participation of key stakeholders and the public at large. It is about the interaction between institutions in all sectors, that must set goals and co-operate in achieving them and creating an orderly framework for action—not only at the global level, but also at regional, national and local levels. It is also about *learning* from action and reshaping policies and priorities in the light of experience and changes in the wider environment. Long-term management of resources calls for *lasting and learning* institutions.

23.3 The challenges for Global governance:

There is a very long way to go before we realize the goals of sustainable future. In terms of human development, industrialization and the health of the global commons, though there has been a significant shift in the late twentieth century from 'frontier economy' to a 'full world economy' the lingering hold of a frontier mentality still has a pervading influence on the global policy making. This mentality is anchored in the belief that a nation can draw on an inexhaustible supply of natural resources, and that man-made capital can invariably substitute for natural capital in improving human quality of life. However, of late the world is realizing the fact that there are few or no substitutes for

the *critical natural capital* being depleted by the exploding rates of resource consumption associated mainly with economic growth in 'developed' societies.

Even where good independent scientific information exists, political and bureaucratic factors, and the existence of strong vested interests and/or long-established practices, condition decisions and often win out. One reason is that, despite the thinking is frequently detached from political decision making, being viewed as less practical and therefore carrying little weight. Greater support is needed for the role of independent internationally well regarded scientific advice, and monitoring and policing of resource issues. The science base has a role to play in governance that must be recognized and fostered by political, economic and social structures as well as by scientists. The politically sensitive nature of risk assessment and application of the precautionary principle make it essential that scientific research institutions be independent of the state and commercial interests should be fostered. Without sources of information and analysis which can be acknowledged on all sides as independent and trustworthy, debate of the risks and benefits attached to innovations affecting the commons will tend to be partisan, creating a climate in which suspicion flourishes and trust is eroded to the detriment of conflict resolution and open sharing of data and ideas.

Poor vertical integration is the result of the common failure of understanding and information flows between the policy level of government and multilateral organizations and small-scale production units or individual resource environmental standards. But the sheer number of producers and their independence from government control systems challenge traditional approaches to entirely unaware-of details about whether and how current practices that are encouraged by government destroy or conserve natural resources. This ignorance results in policies which appear reasonable but often prove difficult or impossible to implement. Failures of vertical integration can be compounded by a large economic and cultural gap between the policy-making elite and the Cross-boundary initiatives. Unless there is both coordination and subsidiarity (pushing decisions down to the lowest level of governance possible, subject to achieving their aim) throughout the system, confusion at the level of global governance inevitably leads to fragmented and incoherent action at the national level, and so on down through the institutional system.

Finally, the different organizational cultures and objectives of business and government can add to the problems of achieving effective coordination between, and public participation in, assessing 'joined-up' problems and seeking solutions. On a positive note, regional organizational structures, perhaps designed to operate at the ecosystem level could be a bridge between top-down and bottom-up approaches, and between bilateral and global co-operation. Such a philosophy would also have to link ethical concerns about intergenerational equity and social justice to practical and quantitative systems for allocating opportunities for resource harvesting on the basis of scientific assessments of the 'carrying capacity' of ecosystems.

This implies overt linkage of economic, social and biophysical development, a long-term perspective to back up short-term action, and an inclusive, participatory framework with a high degree of political commitment behind it. The ecosystem requires that humans create opportunities for ecological self-regulation, until the global ecosystem is recognized as an integral component of the overall global political and economic system, currently dominated by economic interests, environmental issues will remain stranded on the fringes of politics and policy, and ecological institutions will be equally marginalized. Perhaps one of the most difficult of all the ethical issues is international inequality. It is also one of the most pressing since some important international agreements, notably those related to the environmental 'commons', hinge upon achieving a shared sense of a 'fair' distribution of obligations and benefits. This issue has lurked at the back of international relations throughout the post-war era. Relatively poor countries are unlikely to agree to have what they see as western definitions of 'fairness' imposed upon them, particularly when even NGO campaigners for fairness invariably exclude the world's poor from negotiating processes.

23.4 Enhancing Global Governance: the Challenge

The current international governance regime has several shortcomings.

- 1 First, it lacks a democratic dimension in the sense that there is acute uneven distribution of wealth and power between the north and south.
- 2 Second, it lacks coordination across policy areas. The international order lacks regulatory systems that the developed world considers essential at national level: for example, bodies to regulate competition policy.
- 3 While we can make vast financial transactions in milliseconds and transmit billions of dollars via IT networks across boundaries, we do not have international tax gathering and inspection systems which can perform the same task for the global community that they do for the nation state.
- 4 There is a lack of common systems of resource accounting and auditing of environmental 'stocks' to allow comparison over time and across countries' national sustainable (development) future strategies.
- 5 Finally, the current regime is dominated by the perspectives of Western policy makers and specialist expertise, and by the assumptions implicit in Western economic policy which give priority to individual consumption power over *community level* consumption decisions and valuations. While no-one is arguing that these Western perspectives are incapable of analyzing complex problems of resource management and devising sustainable solutions, it is essential to acknowledge their limitations within the present systems of economic valuation.

Affluent and specialized staff from Western agencies often finds it hard to understand fully the needs and capacities of poor Southern communities. They may underestimate or misunderstand the local knowledge and skills that

indigenous people possess (and indeed, developing country governments may also dismiss local expertise in their desire to modernize). The nature of decision making in non-democratic countries and unfamiliar cultures may be a barrier to collaborative action. Policy makers from the affluent West can find it hard to grasp the dynamics of societies where *scarcity* dominates everyday life in a way long forgotten in the rich world.

23.5 Priorities for Action

This state of affairs points us towards two key challenges for the new century. First, we need urgently to consider how we can democratize and strengthen the coherence of the existing institutions of global governance. We also have to focus on the second challenge—improving the national level of governance to ensure sustainable management of basic resources.

While some TNCs have begun to report on their environmental and social impacts, and to adopt corporate policies to promote sustainable (development) future, voluntary approaches are both unevenly spread and lacking in consistent standards. There is a need to promote faster progress in this direction, through a combination of carrots and sticks. This means, in part, defining conditions on the operation of the open market economy, and ensuring that it works in support of international agreements on environmental and social protection. In part, it requires also the definition of a set of values shared by humanity, international agreements to underpin that set of values and then regulation of the market economy to ensure that it is directed towards meeting humanity's needs rather than individual's demands. Better coordination should be between UN agencies and others.

Development has been dominated for the last two decades by emulation of Western models of industrial production. But in the West there is growing recognition of the need for models of development which take full account of sustainable resource use and ecological constraints, and this needs to be reflected in the programs and priorities of international agencies. There is also a need for models of development *appropriate* to local conditions and capacities, in North and South alike. Top-down economic development, which neglects the perspectives of local communities and their expertise, is all too often unbalanced and unsustainable. Thus we need more recognition of, and support for, *alternatives* for development models, which link social and economic development with resource conservation. At the international level, there is a need to create more productive partnerships between North and South for resource management in individual sectors. We also need urban and rural models for regional and local development based on governance systems and technologies which promote sustainable (development) future and resource conservation.

There is a 'regulatory deficit' in global governance; governments should make it a priority to ratify and implement existing conventions, such as the 1997 UN Convention on the Non-navigational Use of Water, and promote regional resource management organizations focusing on innovative solutions to conservation problems. There is also a need to develop further, via the WTO and other agencies, a global regulatory framework for the operation of TNCs. This would set global standards for environmental and social performance, and extend corporate liability to cover environmental damage. However, the ratification and implementation of global conventions cannot simply be left to governments, which may ignore them (as in the case of the US Congress's treatment of the Kyoto Protocol on global warming) or fail to act on them. Many governments are authoritarian and/or barely capable of action throughout their territory. Increasingly, power, influence and legitimacy attach themselves to other bodies: regional governments, city governments, NGOs and TNCs committed to social and environmental excellence. There is a need to establish global 'civil society conventions' to which these bodies, as well as nation states, can sign up. An example exists in the form of the Marine Stewardship Council and the Forestry Stewardship Council established by WWF with business partners to promote sustainable harvesting of fisheries and forests. By-passing the nation state where necessary, and making strong connections between communities and the private sector, must also be part of the development of new forms of governance of the global commons.

Technological Improvement, Product Substitution and Eco-efficiency are the crucial features of twenty-first century economic development. Governments need to be encouraged to subsidize technological improvements and product substitution for scarce resources, to promote cleaner production and more efficient use of energy and materials. Business can play an important role in investing in environmentally sustainable technologies both in the North and, equally important, in the South. In addition, governments should respect and support the commitment to implementation of international agreements such as the Kyoto Protocol, and ensure that subsidies, where applicable, favor the development of technologies favorable to the full implementation of such agreements. Aid and lending programs to governments should promote take-up and diffusion of appropriate sustainable technologies.

Perhaps the most important task of all is to promote a new ethical, consensual philosophy of global stewardship and citizenship, in the face of the rapid expansion of worldwide consumerist society. It is easy to call for such a thing, but far harder to define it and perhaps impossible to promote it. But the fact of globalization and the emergence of common co-operation across cultures, and new shared critiques of the existing global order—shared even between TNCs, NGOs and some governments. It is not impossible to imagine a 'highest common denominator' ethic of sustainable (development) future, based on the message of Agenda 21 and the analysis of global risks, which is now shared by NGOs, some leading TNCs and many governments of all kinds. Such an ethic would need to be based on widespread public participation in decisions over sustainable resource use, possibly via Internet. But it would also need to direct attention to global political leadership and foster a marked shift to a long-term (say fifty-year) perspective in public

debate, and in policy making and investment decisions—for the benefit of the world of our children’s children. This new philosophy could be the common link among global civic society, based on sustainable production and consumption, ethical South–North relations and sound information of the implications of current and alternative patterns of human action. It might be argued that a consensual ethic based on wide participation by stakeholders would simply reflect Western values and priorities, and thus deepen existing inequalities between North and South, and between the West and the rest. But this need not be so: a key element in the emerging consensus on the global risks of development is that Western shift towards a low-carbon, resource-conserving economy. While the gap between rhetoric and action in the West is huge, nonetheless the realization is spreading among decision makers and TNC leaders that radical change must come in the next decade or so. This ‘self-critique’ of Western production and consumption opens up the possibility of a shared agenda and a shared ethic across the planet, that challenges current assumptions and asks fundamental questions about the market, the democratic process and about social values underpinning human societies. Markets, now widely seen as the driver of innovation, prosperity and a better future for all are, after all, not separate from society. They must always rest on a social foundation of rules, and their operations reflect the goals we set for them. Currently, markets are too detached from social aspirations and collective wellbeing, and too much is expected of them. Markets need governance, for their own effective operation as well as to ensure that they deliver environmental and social benefits. As Peter Warren of WHAT has said, ‘...our morality does not mesh with our economic system...we cannot ask the market to define a desirable future.’

23.6 Conclusions

The common conclusion is that action is needed now, at both the global and national levels, to improve radically the systems we have for governing the use of these resources.

The action needed is of two kinds. First, we need to make our laws work much better than they do. The existing framework does not promote sustainable harvesting, give accurate signals to consumers and harvesters about the limits to consumption, or implement adequately the environmental laws which have been framed to date globally and nationally. Second, we need innovations in governance—new market mechanisms, systems for regional management of resources, public information and education initiatives and better linkages between government departments and across sectors—if we are to make the transition to sustainable resource use in the twenty-first century. Governance is too important to be left to the governors; we need processes through which producers, consumers, NGOs, businesses and many other stakeholders from civil society can have a voice in the design and implementation of solutions. Because conditions vary so much, there is no top-down blueprint which can be imposed: we need open experimentation and innovation, and mechanisms for learning across sectors and cultures.

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24. Philosophy of sustainable future of humankind

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Abstract:

Philosophy of sustainable future of humankind is the search for knowledge and understanding of the nature and meaning of the universe and life. Under the threat of the impact of the climate change system to the biosphere of the planet Earth our civilization has to meet the challenges and establish a path for survival. Present global social order, life style, education, ethics and daily practice of humans needs to undergo a fundamental renewal to meet the needs of the third millennium. **The sustainable future of humankind or harmony of our civilization with the nature of the Planet Earth is an option for humankind to survive approaching impact of the climate change system at the biosphere of the planet Earth.**

Key Words: Philosophy; Sustainable future; Our civilization; The climate change system; Our common enemy; New approach; Global society, The Climate Change System Impact, Interdependence, Interaction and Co-operation, etc.

24.1 Discussion

For over 12 thousands or more years of Homo sapiens evolution, human society was first scattered in the most suitable environments which offered security, water and food, and later shelter and a fire place. Humans have progressed from a hunting and gathering tribal life, to antiquity, medieval, pre-industrial, industrial, postindustrial, informative, innovative, and now to a global society. The synergy of this represents the leading edge of current existence; a reality borne of a fast changing environment in terms of the quality of Planet Earth's environment. The biosphere and the living environment have been changing from a suitable one lasting some 12.000 years to a threatening one as a result of recent evolution.

Planet Earth's natural system has been maintaining itself for more than 4.6 billion years (4.600.000.000) with many ups and downs with respect to possible living conditions. With the evolution of humanity's environment (human eco system), the natural system has recently come under stress, and changes in the quality of living conditions are consequently taking a new turn. The natural system is using its system qualities and quantities as its permanent practice under the rules of interdependencies, interactions and co-operation. We cannot change living conditions but we may or may not fit into them. When we explore and gain knowledge of how the natural system and its ceaseless 24-hour processes operate, we will have a chance to properly understand the good and bad impacts of our society on its operation.

Planet Earth is not our civilization's personal playground, and it does not belong to us. In fact quite the opposite since we (our civilization as a whole) are only one group of living creatures living on the globe's surface (mainly the terrestrial part). We have been, and are trying, to accommodate ourselves very well to the quality of living conditions during our civilization's time. But recently (during the last 200 – 300 years of the industrial and subsequent era) our impact on the biosphere has been triggering a reaction from the natural system. The resulting new conditions do not benefit our civilization, but rather the contrary.

The impact of our civilization could be summarized in the following way: Our civilization's first settlements were built some 14,000 years ago, as a result of the social life-improvements of pre-antiquity humans. The first settlements on European lands were built in swampy areas for security reasons, and the population consisted of up to 10,000. This was a result of the changed conditions within the biosphere which evolved after the last ice-age, which ended some 60,000 – 16,000 years ago. Since then the climate change system conditions at the biosphere of the planet Earth have been of almost the same quality right up to the present time. Changes have, of course, occurred but not as extreme as the ones we face now. The difference between today and 200 years ago is due to the extreme input of our civilization's output into biosphere including all sorts of waste, the side-effects of nuclear technologies, synthetic chemicals, the human population explosion and its consequence, which can be seen in the destruction of the biosphere due to the ways that human needs have been met.

The climate change system as an integral part of the Earth's biosphere has a bigger influence on our civilization than humans think or believe. In absolute terms the climate change system is provider, holder, maker and guardian of the living conditions which make our life possible. But we humans are doing our best, through our "modern" relationship with nature and each other, not to appreciate this fact. Instead we harm the climate change system as much as we can, yet fortunately not as much as we think we may. It is **not the planet Earth** that is the home of our civilization, but **the biosphere**, which is a tiny part of the planet Earth. Vulnerability of the two are two, not even comparable issues.

With present global societal complex relations, systems, and characteristics: Human environment or human eco sphere, which has not much of connections with the Nature rather contrary; Homo urbanus, which will reach peak of

80% of total global humankind civilization soon (2020), meaning the total of 80 % of population will live at fragile environment of our cities; global human society has replaced the Nature knowledge by urban ethics and life style at human environment. We think our global society philosophy, education, ethics, family life, and societal complex issues should undergo renovations for the needs at third millennium.

Our civilization common enemy results from consequences of the impact of the climate change system at the Planet Earth biosphere/our living space. It is elementary to have common threat, which may bring our civilization to have better chance for survival. ***“Our Common Enemy” is the climate change system.***

The Nature – it is complicated situation with our understanding of the Nature. Great achievements, discoveries and research has been done in past and present and hopefully will be done in future, but it looks like our understanding of the Nature and the Nature itself are on two banks of the same river.

Life, even survival of us, the modern civilization, depends on conditions provided by the *nature* in which we human all live, and by the climate change system as an integral part of it. The Nature, Cosmos/Universe, Milky Way, Solar System, Earth, Biosphere, climate and climate change systems, terrestrial, water and air environments are *no simple systems* (features, entities, and processes), but very complex and complicated. The time – *duration, continuance* (*Webster*) as it is accepted, used and understood by humans and our civilization may look completely different from the *nature* point of view. The nature does not recognize our common term “time”.

The climate change system impact is changing living conditions at biosphere of the planet Earth, in general, and is result from natural processes and/or human interventions. Both kinds of impacts can cause consequences, which are both good and bad by human criteria. E.g. from a rather one-sided/narrow/shallow/oversimplifying viewpoint the changes in the human life over the last 2 – 3 centuries are bringing the so called *progress*: more comfort, a higher standard of living (for part of humanity) on the basis of many technological and non-technological innovations.

Philosophy of sustainable future of humankind is the search for knowledge and understanding of the **nature and meaning of the universe and life.**

The sustainable future or harmony of global society with the Nature of the Planet Earth, and its coexistence with other creatures in nature as a part of the Earth’s biosphere is the solution, to the best of our knowledge, which should be adopted as the vision for our survival. We need a society wide global approach, and not the dilution of scarce financial means, for ***it is impossible to buy the survival of humankind with a financial approach however great.***

With commencement of awakening of humankind in sixties of 20th century, on needed quality of environment, as basis for life of humankind and all creatures on the Planet Earth, it is also commencement of sustainable development concept/strategy/vision. Our collective awakening regarding the difficulties that our Earth faces was excellent; however, it did not change most people’s short term values. The problems of sustainability of humankind and the Planet Earth are much more complex than were understood at the end of the 20th century.

The first part of the “sustainable development” – “sustainability”, is much more important and has real value for the future of humankind. Second part, “development” is a term that is often misused from the industrial revolution and world of economics, and has nothing to do with Nature of the planet Earth. When we use the term “development”, we are referring to products, construction, man-made systems, repairs, machines, armaments, etc. Development is a part of human society of post-industrial era. Nature has no “development” whatsoever, and natural system works on contents and under the rules of ***interdependences, interactions and co-operation*** relations.

What is needed is a New Approach as the introduction of global society system relations, values, ethics, contents and mechanisms, which should assist as to transcend to a sustainable future of Planet Earth’s human global society.

What is necessary for the survival of humankind is to introduce the concept of a sustainable future of humankind by attaining harmony with our environment and the nature, since present society have lost touch with the nature.

Sustainable future of local community leads to the sustainable future of humankind.

It would be easy to write at length on the concept of sustainable development, but that is not the purpose of this presentation. Our purpose is to transcend from sustainable development to sustainable future as concept, policy, technique that is needed for the survival of humankind. The follow up from sustainable development should be accomplished with all possible co-operation of humankind to sustainable future, and by mitigations of the climate change system impact on the biosphere of the planet Earth. The goal of sustainable future is a most complex issue, which could be undertaken with consent of all humankind and with a real dedication to fulfilling its goals.

It is pertinent at this point to provide a short description of “sustainable future”: **Sustainable future of humankind is harmony of the humankind system/civilization with system of nature/biosphere of the planet Earth.**

It is a short description of a very complicated and complex concept of present global human society and its basis – the biosphere of the Planet Earth. We believe that all good work of countless individuals towards achieving sustainable development should now be reoriented to the more complex concept of achieving a “sustainable future”.

However number of important issues have been mentioned, but not to forget, many more of them have not been mentioned. We believe that it is important to understand all simple and complex issues needed for transcend of present global society to sustainable future human society of the third millennium.

People, values and knowledge have been making an epic song of our civilization, which has been going on since humans have existed. And so has other nature, including **whole** Universe, Milky Way, The Solar System, Planet Earth, Biosphere etc down to fundamental particles – quarks, protons, neutrons, electrons, relativity theory, quantum

mechanics and atom structural understandings. We people are a part of nature, although this has been admitted less over the last three centuries than ever before.

The climate change system ultimately would change living conditions within the biosphere and geography of the Earth so much that our civilization will end. Therefore we are presenting the climate change system as common enemy of our civilization, and sustainable future concept as path for survival or future of our civilization, and we are exposing our recommendation in chapter 27.

24.2 Conclusions

In conclusion: “Be the change you want to see in the world” (Gandhi).

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The full list of literature (4 + pages) is visible at www.institute-climatechange.si where the article is displayed on which this chapter is based.

E. CONCLUDING REMARKS

Sustainable future is harmony of humankind and the Nature/Biosphere of planet Earth. It is unavoidable for the current civilization of humankind to survive, and it is difficult to attain. One cannot reach to stars with big effort – this is what the Latin sentence in the title of the next and final contribution in this book is expressing.

25. Per aspera ad harmoniam astrum

Sustainable (Development) Future of Humankind – and Systems Thinking about its Ethical Imperative and the planet Earth - Mother Earth

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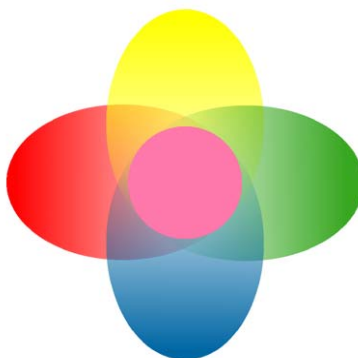
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SUSTAINABLE FUTURE (SF) CLOVER - FORTUNATELY FOUR-LEAVED CLOVER ©

Figure 25.1: Logotype of SF – a System of Four Essential Aspects as a four-leaved clover, fortunately

25.1 Introduction – thesis

The issue of sustainable (development) future of humankind (SF from now on) is so complex (Blinč 1998) that it cannot belong to biology or any other natural or other science alone, it has very much to do with nature, society, humans and their thinking and feeling (Ecimovic, Mulej, Mayur 2002). Therefore it would be desirable to include in consideration of the nature of today and of the SF something in addition to the usual three aspects (closed pyramid, Robinson, Tinker 1998, Schnurr, Holtz 1998), even if they are found interdependent rather than considered by sectors (open pyramid with triangular sides) (see: Ib revija 2001, Radej 2002):

- 1 The economic imperative (wealth), (for yellow colour, which has low visibility)
- 2 The ecological imperative (eco - efficiency),
- 3 The social imperative (quality of life).

All three of them depend on human thinking, decision making, and action, which is not based on rationality alone neither on the economists' traditional three suppositions (greed, rationality, equilibrium), but on the interdependence of the rational and emotional subsystems of the human personality and society (Mulej et al. 2000, Tavcar 2003a). Therefore the triangle of the above three factors might better be completed up with a fourth factor (Cheah 2002, Tavcar 2003b):

1 The ethical imperative (contemporary human values / culture).

It belongs into the system of preconditions of the sustainable (development) future as a concept of the national, European, and generally the modern humankind's vision, principles of strategy and policy of diminishing of the unfavourable consequences of the impacts of the modern society and globalisation.

The arising question reads: how to include ethics/values/culture in the endeavour to make sustainable (development) future a reality, and its impact on the identity of the modern humankind, Europe, and Slovenia as well as other nations, regions, professions, other social groups, and individuals!

25.2 The ethical imperative and sustainable (development) future

So far a rather mechanistic approach to consideration of the non renewable natural resources has prevailed: the economic objectives have been defined with no (clear) dependence on the natural laws or interdependence of both of them. This has not proven very helpful, but rather disastrous. The relatively new organic approach considers the human being inseparably interlinked with the Nature of the planet Earth, societal status of humankind and human eco sphere as man produced/developed/inserted/fragile environments (Ecimovic The Information Theory of Nature, and), but it considers only the »ethics of treatment« of the non renewable resources, be them natural or human (the concept of *the environmental space*, Spappens 1998; Kirn 1999; Plut 2001); it includes only the ethics of sustainable development and management (»do it yourself«) of it and other processes. But it leaves the emotional (humane) aspects of personality and society aside.

This means that the cultural identity of the modern humankind is not systemic/holistic enough (See: Table 25.2) because it does not include a requisitely holistic consideration of all preconditions of humankind survival. Therefore we suggest a interdependent, interacting and co-operating action (Ecimovic, Mulej, Mayur book System Thinking and Climate Change System (Against a Big "Tragedy of the Commons" of all of us), 2002) as humanistic approach, which adds to the notion of the consideration of SF from the economic, ecological, and social viewpoints as imperatives also the ethical imperative (See: Fig. 25.3a). The latter one is supposed to add to ethics of altruism (Smith 1776), anthropocentric, professional, environmental ethics (Odin 1989, Kirn 1994, Brown 1995, Lah 1996; Plut 2001), ethics of sustainability (Kuegen 1995), ethics of democracy or ethical mutuality (Kung 1997), ethics of interdependence (Mulej, Kajzer 1998; Mulej 2000; Potocan, Rebernik 2002), and humans' humane ethic (Tavcar 2003a,b) first of all.

To make this ethical imperative happen, we suggest the current approach of *ethics of acting (management and development)* to receive an addition called ethics of mutual understanding, ethics of co-tolerance (Bernik 2003) ethics of interdependent tolerance (Tavcar 2003 a,b), (»be a humane human«).

Contemporary novelty within this viewpoint is "Sustainable future of humankind is harmony of our civilization with the nature of the planet Earth" (Ecimovic, 2006).

A case clarifying the need for such a consideration: UNDP's 1999 report on development of the world population includes a call for help against »the gap arising between the suppliers and owners of knowledge and the ones lacking it«. This gap is so enormous that the real chances offered by the development help in the form of new technologies cannot work. There is even a danger that the big »technological« projects undertaken by the enterprises and governments of the underdeveloped world suppress the most urging needs such as medical care, education, infrastructure, and drinkable water. (Delo 2001, Sercar 2001). – Jeremy Rifkin (president, Foundation of Economic Trends, Washington, D.C.) said correctly: »Philosophers of enlightenment created a philosophical social vision that was strong enough to match the development of ownership and market. A vision must be created for the technology and commerce revolution to work for us rather than against us«.

Step by step, we humans foresee (Tavcar 2003a,b) a switch from discussions about the *impact of communication* (tone, voice, word, language, music) and *visualisation* (light, colour, picture, form), finally and also, to discussions about the impact of consciousness (motion: overall consciousness, thought in one (Schoppenhauer 1818; Toth 2002) as a human value, to the of national, personal, and cultural identity. As a vision of ethical imperative of SF we propose ethic of consciousness of overall humanistic approach which include SF in our consciousness, the rational and the emotional ones, not only in sub consciousness.

How can we make it happen?

25.3 Systemic/holistic consideration as a precondition for the notion of sustainable (development) future to live

The shortest definition of what we mean by systemic thinking is in Table 25.1 (for details see: Mulej et al. 2003)

Systems / Systemic / Holistic Thinking	Unsystemic, Traditional Thinking
Interdependence/s, Relation/s, Openness, Interconnectedness, Dialectical System of (Essential) Viewpoints	Independence, One-way-Dependence, Closeness, Single Selected Viewpoint
Complexity (plus Complicatedness)	Simplicity, or Complicatedness
Attractor/s	No influential force/s, but isolation
Emergence	No process of making new attributes
Synergy, System, Synthesis	No new attributes resulting from relations between elements
Whole, Holism, Big Picture	Parts and partial attributes only
Networking, Interaction, Interplay	No mutual influences

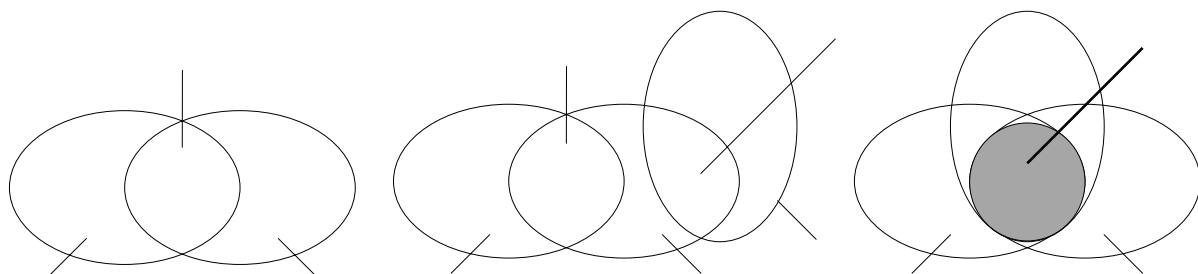
Table 25.1: The Basic Seven Groups of Terms of Systems / Systemic / Holistic

Contemporary sciences novelty is also use of system thinking in research of the climate, climate change, global warming, and other issues connected with those as “the climate change system” (for details see: Ecimovic, Mulej, Mayur 2002, and “The Climate Change System Introduction”, Ecimovic 2008) and “the sustainable development system” (presented in: Tavcar, Mulej, et. al. 2003c, Tavcar, Mulej, 2004, Tavcar, Mulej, et. al. 2008, Mulej, Tavcar, et. al. 2008)

Though, in the domain Global Changes and Eco-systems of the 6th Framework European Research Programme there are sub-domains *SD (impacts)*, *climate change (effects)*, *natural and other disasters (consequences)* and they are considered independent rather than inter-dependent systems; thus, their *emerging synergies* as a consequence of their inter-dependence and inter-action are neglected.

The same situation can be found concerning *ethics*: it is a topic under consideration in many domains, but as an independent entity rather than holistically, as an inter-dependent and inter-acting entity; again more of the *emerging synergies* as a consequence of inter-dependence and inter-action is desirable. The required systemic thinking is otherwise forgotten about. As a solution we suggest *Symphonic Self-regulation of Interdependence* (Tavcar 2003b) deriving the emerging synergies from mutual links (F 25.2, 25.3b).

SIMFONIC SELF- REGULATION OF INTERDEPENDENCE



Composition of two higher order systems (Kajzer, 1982) in terms of synergy. Kajzer S., (1998): <i>Komposition von Systemen – Systeme »hoherer« Ordnung. Im herausgegeben von Thomen, J. P., Mugler, J., Belak, J. (1998): SINERGIE und entwicklungsmanagement. MER Evrocenter, Gubno</i>	Composition of horizontal integration form of two higher order systems (similar branch) with vertical integration form (different branch) in comparison with Mulej Law of sequence hierarchy and interdependency (Mulej, 1976, 1992) and Rupnik Theory of integrability factors in terms of Rupnik Theory of macrosystems synergy (Rupnik, 1996).	Composition of interdependent systems of higher order based on compability (symphonization) of preserved subsistent linkings (Tavčar, 2003) in comparison with Mulej Law of sequence hierarchy and interdependency and Rupnik Theory of integrability factors in terms of Rupnik Theory of macrosystems synergy.
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Figure 25.2: Symphonic Self-regulation of Interdependence – Emergent Synergies of Linking

This contribution could be upgraded with interdependence, interaction and co-operation as driving powers of the Nature within the frame of the matter, energy, particles, rays, powers, forces and yet unknown contents of the Nature, taken from contemporary sciences contents.

In a *SF* concept we propose to consider ethic as well as inter-dependent of whole (Figure 25.4a) (Tavcar 2003b, 2005,) and hierarchy of interdependence of its *impact*, *effects (climate change)*, and *consequences (natural and other disasters)* as framework for Novel Concept of Holistic Sustainable Development Planning (for details see: Tavcar, Mulej, Zidansek, Ecimović, Blinc, Lah, 2008) resulting from macrosystems emerging synergy.

Contemporary science novelty is a need for transition from “*sustainable development*” to novelty strategy “*sustainable future*” (for details see: Ecimovic, Mulej at all, 2007, Tavcar, Mulej at. al. 2008).

A quite encouraging conclusion can be made from reading “Guiding principles for the Sustainable Spatial Development of the European Continent” of CEMAT, passed in 2000 in Hannover, Germany, and the policies of the “Ljubljana Declaration on Space Dimensions of the Sustainable Development”. SD is considered an entity of three dimensions, the economic, ecological and social ones, which are penetrated with the fourth dimension – the one of culture. In the logotype the latter covers the first three. It many lead to SF.

Though, the current kind of the Council of Europe’s systems approach to sustainable development is presented in its logotype with three **basic dimensions** – the **economic**, **ecological**, and **social** ones; together they make SD a system, which is illustrated by the circle inside their triangle. But the latter – due to this position – seems to be synergetic only rather than being self-standing as well, which would picture it closer to reality. According to the law of the requisite holism one may maintain that somebody has – with full right – decided to consider three dimensions only. But in such a case, the emotional part of the process remains out of sight, although it is very crucial in reality. Therefore we suggest the given logotype to be upgraded – **by adding the ethical imperative** as the fourth inter-dependent viewpoint/dimension/perspective of the sustainable (development) future (Tavcar 2003b). This would enable their *emerging synergies* as a consequence of their inter-dependence to be better considered. See Figure 25.1 (we will come back to it as a logotype later on).

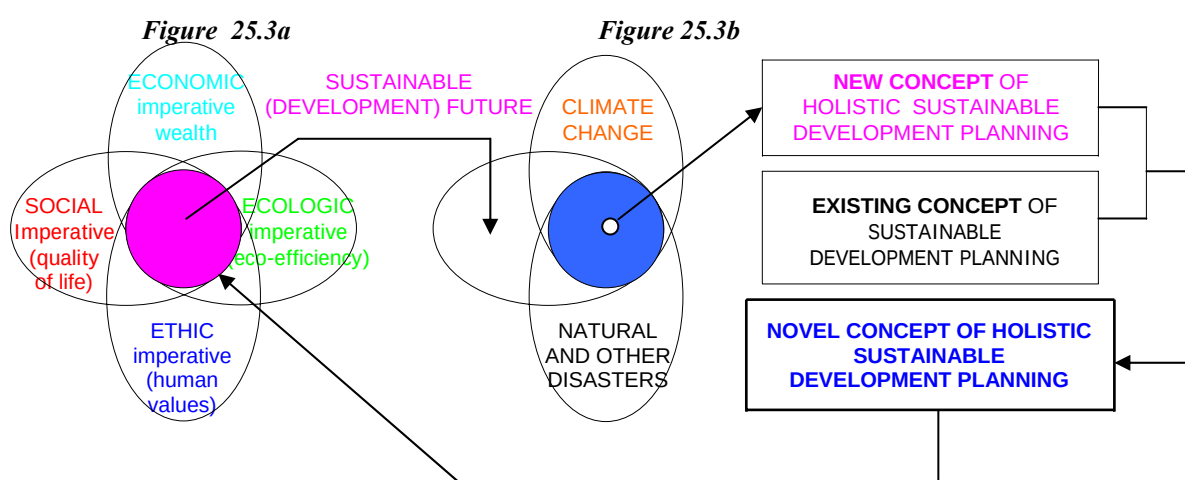


Figure 25.3: **Dialectical System of Four Essential Aspects of SF as a clover –fortunately a four-leaved one**, and hierarchy of interdependence of its **impacts, effects**, and consequences from the viewpoint of macrosystems synergy

The interdependence of all four crucial aspects of sustainable future of humankind - SF would thus be very visible. This fact is especially important in the implementation of the agreed-upon concept, vision and strategy concerning SF; in activities of the Council of Europe and European Union many individuals and organizations will participate guided by their understanding of the given logotype.

The cultural dimension, which the Hannover and Ljubljana Declarations speak about, is very closely linked or interdependent with the ethical imperative, which we speak about here. They are both derived from *values* of a person launching them, which over time become more or less generally accepted in a social group thus developing to the level of *culture*, being later on imposed over the individuals as the acceptable *ethics* and become a part of their ethics and identity. But, there may be a trouble with the word culture in a logotype that might have to do with the fact that culture is a word with many meanings in the daily colloquial language. This fact could become an obstacle: people, who are supposed to use the logotype, may misunderstand it and undertake a wrong action.

24.4 Sustainable (development) future, **ethics** and the planet Earth - Mother Earth – and a logotype reflecting their interdependence

Ethics (The study of standards of conduct and moral judgment; moral philosophy, Webster’s 1986) means distinguishing between right and wrong (Struk 1999; Wittmann 1996; Wilson 1998; Ulrich 1997; Thommen 1994; Thommen 1996; Knez-Riedl 2002; etc.); which ethics is the correct one, matching SD, and able to be found acceptable by most people, including the greedy and selfish ones, at the same time! And what should look like the ethics of sustainable future of humankind – new ethics needed for survival of humankind under the challenges of present and expected future (the climate change system impact/consequences and mitigations)!

Accepting SF means accepting the fact that we are integral part and humankind is living on sources provided by the planet Earth - Mother Earth as the living organism made of the living and nonliving subsystems (= real entities) and their interdependencies and resulting interactions (Lovelock 1979, Capra 1997; Vezjak, Stuhler, Mulej 1997; and

interdependences, interactions and co-operation (Ecimovic, Mulej, Mayur 2002; Detela 2002, Tavcar 2003b, 2005, 2008 etc.). Mother Earth is, hence our shared mother offering us her unconditional love, but only on the tiny space – biosphere, which is even non comparable with whole system of Mother Earth, except in the segments that we ruin it too badly for our loving mother to still have sources to offer us and support us with. Thus, **SF** is a concept teaching us to behave as Mother Earth's good children who are not too selfish, give her back her love, and do so for their very selfish reasons: their own longer-term survival requires shorter-term adaptation to the Mother Earth's holistic requirements (see: SIG Wisdom of the People Forum (Indigenous) in: Christakis, Bausch, eds. 2003; etc.). She is not one-sided and biased, we humans are, and need to change our level of holism of thinking to the requisitely holistic one – to survive.

Let us come back to the logotype in Fig. 1 on this basis. As Tavcar suggested in his discussion at the International Seminar "Consequences of the Enlargement of European Union" As a Side Event of the 13th European Conference of Ministers Responsible for Regional Planning (CEMAT) of the Council of Europe Member States, entitled the "Implementation of Strategies and Visions for Sustainable Spatial Development of the European Continent." held on September 17-18, 2003, in Maribor, Slovenia, it might be better if the logotype was: Not a triangle pyramid, which can hardly present a living organism or Mother Earth, But a clover, fortunately a four-leaved one.

Why such a suggestion?

- 1 Each of the four leaves has the form of an ellipse to illustrate a soft-systems approach that is the natural attribute of the **Mother Earth** reflected in systems thinking (Fig. 1).
- 2 The Globe in the form of a circle in the centre of the logotype illustrates the ideal of **happiness** / fortune, which the **Mother Earth and her unconditional love** bring (which is also a **social indicator**; see: Ib 2001, several contributions, Zidansek 2007).
- 3 The fuzzy-system style of overlapping of the four imperatives illustrates both their over-lapping and their interdependence, concentrated in the **Globe** (= the entire biosphere in the language of L. v. Bertalanffy, present indirectly in the sentence "Think Global, Act Local" in the spirit of the UN Rio '92 Declaration on Sustainable Development – as a very urgent necessity of humankind on all the Globe).
- 4 The Sustainable Development is still a vision, more or less. Therefore we might illustrate this fact with the white colour containing all colours and hinting to the foresight that the requisitely holistically defined concept of SF will experience addition of new dimensions helping the existing ones make it happen (e.g. medical care). In the attempt to make this grand vision a reality one searches for interdependencies, i.e. mutually complementary differences of all the different impacts over the life on the Mother Earth – in order to make them a symphony, interlinking many individual instruments into one synergetic orchestra (*Symphonic Self-regulation of interdependencies* (Tavcar 2003b)). This process may ease conflict and problem solving and support creative management, which is badly needed by the **concept of the Sustainable (Development) Future**.
- 5 Is this a **utopia**? In this case we should use the rosy colour, which we suggest for the logotype under discussion here. Namely, according to the definition in the theory of colours **the rosy is the colour of the unconditional love of a Mother for her baby** (not child of a more grown-up age). If we compare the age of the Mother Earth (4.600.000.000 years) with the age of Humankind (120.000) (see: Capra 1997; Ecimovic, Mulej, Mayur 2002; etc.), humankind is not far away from the age of a baby. **Humankind also depends on Mother Earth as much as a baby does on his or her mother.**
- 6 Along with this, we should be aware that such as **Utopia, as a Vision, is actually a part of our daily life** (Tavcar 1998). **Our Mother Earth offers and gives us her unconditional love every moment. Like babies, we should return our love to her – by making the concept of SF a reality – on which our own future depends a lot** (although not totally, because the Planet Earth is only a sub-system and interacting, inter-dependending and co-operating with the Solar System, Milky Way Galaxy System and the Universe as largest system humans may explore (Ecimovic, Mulej, Mayur; 2002; Ecimovic 2006, Ecimovic 2008, Tavcar et. al. 2008).
- 7 Although we humans – being sub-systemic and interdependent parts of the Mother Earth and the Universe – do not always act and react in the most suitable way, our Mother Earth acts as a self-organising organism caring all the time for us. Her capacity of self-organization belongs to her essential attributes and covers both the living and the non-living nature and their interdependence. It is up to us to be aware of the limits of our actions putting her **self-organising capacity** in danger, quite often – which means putting ourselves in serious danger, which we can diminish by doing more for the concept of **SF** to live. And by doing it in a requisitely holistic manner, full of the human imperative and ethics of consciousness of interdependence.

25.5 Conclusions

The concept of sustainable development was passed by the highest political body of the entire humankind, because there was and still is an agreement that the one-sided thinking, decision making and action of so far have become very dangerous for humankind's survival (Tegetthoff 2007, Ecimovic, Mulej, Mayur 2002, etc). A more systemic or holistic behavior is needed.

People have shown over the decade since the UN Rio 1992 Declaration on Sustainable Development that they find it difficult to understand and realise. New actions are undertaken (such as the suggestion to the Committee of Ministers to include **SF into the** agenda of the 3rd **Summit of the Council of Europe**), new knowledge is developed, new logotypes

show up to make the endeavour easier to accept, support and undertake. Perhaps, the existing logotypes are not holistic enough. We suggest a new one here with a brief argument and explanation that it suits the law of requisite holism and matches the *human imperative and the ethics of consciousness of interdependence. And at the conclusion to meet needs for sustainable future of humankind or harmony of humankind with the nature of the planet Earth, which is universal and under the rules of the Universe – interdependences, interactions and co-operation of all matter, energy, particles, rays, powers and forces and yet not known contents of the nature and Universe.*

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26. The Nature of Sustainable Systems in the Light of related Dilemmas

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Abstract:

Sustainability is, at present, a highly complex issue (meaning that there are multiple definitions and perceptions about it, all equally valid.) In the long-term, achieving sustainability at the highest levels will require establishing a symbiotic, rather than a parasitic, relationship between humans and the Earth. In the short-term, it is questionable whether humans will be able to reverse or repair the damage that we have done. It is recommended that human leadership not abandon that possibility, but also focus on preparing for possible outcomes of the damage, and the human issues which are likely to result.

Keywords: sustainability, complexity, leadership

26.1 Introduction

Sustainability has become a by-word at almost all levels of society, in countries around the world. Its widespread use, though, has not necessarily brought clarity to its meaning. What is it that we want to sustain, and how are we to go about that?

A general assumption might be that we want, most importantly, to assure our own survival. If so, is that survival most important at the level of the individual, or the family, or the nation, or the species? Each would necessitate different requirements and different trade-offs. Many demographic projections, for instance, estimate that there will be between nine and ten billion humans on the earth by the year 2050, with the great majority living in what are still, at present, developing countries. If the long-term capacity of the Earth is actually closer to only one billion people, as some have predicted (see Lovelock, 2007) how would we reach that level, and who would decide?

A different interpretation might focus on protecting the Earth itself. Many current environmental efforts are intended to limit the amount of damage that we, as humans, are inflicting on it. But what costs in terms of human resources or even suffering are justifiable? It appears obvious that the Earth could not sustain 10 billion millionaires, at US standards of extravagance. But if not, what level of lifestyle is adequate, and should that be regulated for all humans? (If so, what additional consequences might that have?) Should we, for instance, forcibly halt the destruction and cultivation of rain forests, world-wide? Or should we completely eliminate the use of fossil fuels within a given time frame, for instance, 10 years? If we did either, what differences would they actually make?

Borrowing from Rosen (1985), a system is complex “to the extent that we can observe it in non-equivalent ways [or]... to the extent that we can discern many distinct subsystems [in this case meaning models] of it” (p. 322). By this definition, sustainability is an exceptionally complex concept.

According to Glenn, et al. (2008), at present, “half the world is vulnerable to social instability and violence due to rising food and energy prices, failing states, falling water tables, climate change, decreasing water-food-energy supply per person, desertification, and increasing migrations due to political, environmental, and economic conditions” (par. 2). As will be explored in this contribution, there are many views about sustainability from different realms of understanding, but few which have offered a coherent description that could be pursued as a common goal for humanity. If recent predictions about the potential effects of global climate change have any validity, there is also an urgent need for a clearer vision of sustainability, and the leadership to enact it.

26.2 An Historical Perspective

In theory, humans lived in harmony with nature, just as did other species, from the time that we arrived on the planet. Small groups, typically referred to as “native” or “indigenous,” continue to live as hunter-gatherers or foragers, on most continents around the world. And while their numbers are small their lifestyles tend to play a large role in the mythology about sustainable practices. Quinn (1992), in his novel *Ishmael*, makes the distinction between “leavers,” those who live in harmony with the Earth, and “takers,” those who simply exploit the resources that are available.

Ironically, the reality for these groups is often not an idyllic Garden of Eden existence in harmony with nature, even in relation to those who would assume to be their most ardent supporters. As explained by Blench (1999):

In principle, foragers and conservationists ought to cooperate since both have a strong interest in habitat preservation and sustainable harvesting of wild resources. In practice the two groups have often found themselves in opposition...[at least in part because] their preferred subsistence strategy, hunting, is often in direct conflict with conservation philosophies and protected areas often fall within their traditional hunting areas (pp. 1-2)

Or as he explains more graphically, “they eat as much meat as they can, often disposing of now-endangered

mammals in a bloody manner” (Blench, 1999, p. 2.) So while on the one hand we romanticize the concept of being embedded in nature, we continue to marginalize those who actually live that way. (In the worst cases, indigenous people who have been displaced from their own lands find work acting out their lifestyles for tourists.)

It is also possible to interpret traditional lifestyles in other ways. Living as a part of nature was the only choice when there were no alternatives. Like other species, humans flourished when conditions were good and there was plenty, and suffered due to drought, famine, fires, floods, storms, competition from pests and predators, and so on. In the larger scheme, such practices were probably more sustainable for the planet, less sustainable for the species, and very difficult at the level of the individual.

With the Dawn of Civilization came new possibilities. Agriculture made food more predictable and migration less necessary. Settlements developed, and then cities. Eventually came the refining of metals for tools and weapons; mathematics and written language – and humans were no longer directly subject to nature. Nutrition, medicine and public health measures allowed human populations to grow exponentially, and combined with the industrial age created an unprecedented impact on the Earth by one species.

26.3 Recent History

While often questioned as an academic source, the Wikipedia entry regarding the “Environmental Movement in the United States” (http://en.wikipedia.org/wiki/Environmental_movement_in_the_United_States), as it existed on August 15, 2008, is enlightening. It traces activity back at least to the Conservation Movement in the late 1800s, which included concerns about fisheries, wildlife, forestry, water and soil. Reinforced by Warshall (2001), “The movement's strongest branch—environmental health—began in the 1800s with epidemiology and urban concerns for waterborne, airborne, and rodent-borne diseases” (par. 13).

One of the worst climatic events in the history of the US was a drought, known commonly as the Dust Bowl, which lasted from 1931 to 1939. According to recent research at the Goddard Space Center (2004), part of the US National Aeronautics and Space Administration (NASA), this resulted from changes in ocean surface temperatures (cooler than usual in the Pacific, and warmer than normal in the Atlantic) which shifted the jet stream during that decade.

The modern environmental movement is often thought of as beginning in the 1960s, as well as the environmental health movement. Early conservationists, during the 1800s, were often hunters and fishermen. By the 1960s, environmentalism was heavily aligned with the peace movement: anti-nuclear, anti-war, and anti-killing of all animals.

Carson's (1964) book, *Silent Spring*, is often credited with providing the first environmental wake-up call for the American public. It detailed the widespread and lasting effects of DDT on wildlife and the environment, far beyond what was intended through its use to combat insects. People became increasingly aware of their effects on the environment, and the repercussions that this could have on them in return. The 1970s brought the first Earth Day, the founding of Greenpeace, and a host of new laws shifting responsibility for many environmental issues from the states to the Federal government in the US.

In 1972, the book *Limits to Growth* was published, giving a system dynamics model of the interactions of five major factors: world population, industrialization, pollution, food production and resource depletion. Though it was intended only to show possible trends, it generated great controversy amongst traditional scientists and economists who rejected its findings (as though they were meant to be scientific), but also raised concerns and awareness in the larger public about human development and sustainability.

The 1980s brought the rise of the sustainability movement, focused primarily on the Gaia Theory of James Lovelock, and concern about environmental justice. Like *Limits to Growth*, Lovelock's work was rejected and criticized by more traditional scientists.

Damage caused by industrial accidents reinforced the divisions between environmentalists and more conservative politicians, scientists, and industrialists. Some of the most high-profile accidents occurred at the Three-Mile Island and Chernobyl nuclear power stations, in 1979 and 1986 respectively, at the chemical plant in Bhopal, India in 1984, and with the oil spill from the Exxon tanker Valdez in Alaska in 1989. Numerous other chemical and oil spills received varying amounts of media attention. Air quality and water quality became public concerns, along with the depletion of rain forests, increased use of land for grazing and farming, hunting of endangered species, etc.

26.4 A Political Perspective

At the same time that momentum was growing amongst researchers, writers and activists, movements also began in political arenas. In 1972, the United Tasmania Group, touted as the first Green Party, was founded in response to the proposed flooding of an Australian national park, as part of the building of a dam. Later that year the Values Party, the first national Green Party, was established in New Zealand. In 2001 the Global Greens, an international network of green political parties was formed, representing members from the Americas, Africa, Asia and Europe (<http://www.globalgreens.org/>).

In 1983 the Secretary-General of the United Nations established the World Commission on Environment and Development (WCED), also known as the Brundtland Commission, after its chairlady. Its 1987 report, titled *Our Common Future*, provided what is often cited as the definition for sustainable development: “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of

future generations to meet their own needs” (par. 27).

The UN negotiated the Kyoto Protocol in 1997, the major feature of which was setting “binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. They amount to an average of five per cent against 1990 levels over the five-year period 2008-2012” (Kyoto Protocol). The US, though, has continued to refuse to ratify the Kyoto Protocol. The rationale in 2005 from President Geo. W. Bush that doing so “would have wrecked the US economy” (Bush: Kyoto Treaty, 2005), in part because China and India were not bound to actual reductions in emissions.

In 2002 the United Nations (UN) declared the years 2005-2014 to be the Decade of Education for Sustainable Development. According to the website of the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Vision and Definition of ESD) education for sustainable development is about learning to:

- 1 respect, value and preserve the achievements of the past;
 - 2 appreciate the wonders and the peoples of the Earth;
 - 3 live in a world where all people have sufficient food for a healthy and productive life;
 - 4 assess, care for and restore the state of our Planet;
 - 5 create and enjoy a better, safer, more just world, and;
 - 6 be caring citizens who exercise their rights and responsibilities locally, nationally and globally
- (http://portal.unesco.org/education/en/ev.php-URL_ID=27279&URL_DO=DO_TOPIC&URL_SECTION=201.html).

Such broad-ranging goals appear to follow previous work done by the World Commission on Environment and Development. As the report states:

The Commission has focused its attention in the areas of population, food security, the loss of species and genetic resources, energy, industry, and human settlements - realizing that all of these are connected and cannot be treated in isolation one from another (*Our Common Future*, par. 40)

26.5 Recent Initiatives

Leaders of the Group of Eight most industrialized economies (the G-8) set a goal in July 2008 of halving greenhouse gas emissions by 2050. But according to a UN panel in 2007, “reducing greenhouse-gas emissions enough to avoid the worst consequences could cut projected global economic output in 2030 by as much as 3% below the level it would otherwise reach that year” (Ball, 2008). (For reference, in 2007 the world economy grew at 4.9%, to \$55 trillion at official exchange rates, Glenn, et al., 2008). Because the impact is expected to be hardest on still-developing economies, China and India again did not want to be committed to the reductions, feeling that wealthier countries should bear more responsibility.

While the UN has called on the one-hand for strong environmental improvements, its secretary general has also decreed that global food production should increase by 50%, by the year 2030. Part of the concern is ongoing hunger and malnutrition, which according to Pope Benedict XVI, “are unacceptable in a world which, in reality, has sufficient production levels, the resources, and the know-how to put an end to these tragedies and their consequences” (*U.N.: 50 percent more food*). The issue addressed by the secretary general, though, was actually price increases for food, which according to the World Bank have risen by 83% over the past three years. One of the drivers of food prices has been the increased production of bio-fuels as an alternative to oil, and the speculation in markets for the crops that are used in them. Food prices have, in turn, caused additional civil unrest and security concerns in many countries.

In the political arena, the complexity of sustainability grows immensely. In democratic environments politicians often garner support based on tangible, short-term results that can be given to voters. Outcomes such as jobs, roads and schools tend to be received more positively than promises about a future climate, which is already variable and hard to predict. As explained by Sterman and Sweeney (2007):

Critical public policy issues increasingly involve complex physical and natural systems. Policies for such systems should be based on the best available scientific knowledge. In democracies, however, the beliefs of the public, not only those of experts, affect government policy and citizen adoption of policies. If widely held mental models of complex systems are faulty, people may inadvertently favor policies that yield outcomes they neither intend nor desire. Climate change is such an issue. Opinion surveys show an apparent contradiction in public attitudes on climate change. Most Americans support the Kyoto Accord and Climate Stewardship Act, believe human activity contributes to climate change, and desire to limit the risk of harm from it... Yet large majorities oppose mitigation policies such as energy taxes... Many advocate a “wait and see strategy” (p. 214).

26.6 An Economic Perspective

While there are many overlapping areas of interest and responsibility between economic and political arenas, for-profit businesses and their managers are ultimately held responsible for profitability. According to Andrew Savitz, author of *The Triple Bottom Line*:

A sustainable corporation is one that creates profit for its shareholders while protecting the environment and

improving the lives of those with whom it interacts. It operates so that its business interests and the interests of the environment and society intersect (<http://www.getsustainable.net/excerptintro>).

As noted even in this definition, creation of profit for shareholders comes first. In the best of worlds, this is accomplished with both social and environmental responsibility, but those two, without the first, will not create sustainable businesses.

As a private corporation, Exxon-Mobil reported spending \$3.8 billion on environmental projects in 2007. And according to the website of the American Petroleum Institute (of which Exxon-Mobil is a member) “The U.S. oil and natural gas industry has invested more than \$148 billion since 1990 toward improving the environmental performance of its products, facilities and operations – \$504 for every man, woman and child in the United States” (*Environmental Expenditures*, 2008)

Despite huge expenditures, such efforts are only offsetting some portion of the damage being done. The US uses approximately a quarter of each of the major fossil fuels (oil, coal and natural gas) consumed each year in the world (*BP Statistical Review*, 2008). While China’s rising demand for oil has been noted in the news, and been blamed for much of the rise in the price of oil, it still uses less than 10% of world consumption. China does, however, account for over 41% of the coal used in the world (*BP Statistical Review*, 2008) and is reportedly bringing a new coal-fired power plant online each week. By one estimate, “the increase in global-warming gases from China’s coal use will probably exceed that for all industrialized countries combined over the next 25 years, surpassing by five times the reduction in such emissions that the Kyoto Protocol seeks” (Bradsher and Barboza, 2006). And according to Glenn, et al. (2008), “World energy demand could double in just 20 years. Without major technological changes, fossil fuels will provide 81% of primary energy demand by 2030.”

Environmental concerns, of course, also create new business opportunities. As costs for some resources rise (e.g. gasoline and SUVs that burn large amounts of it), demand is created for alternatives. (At present there are plans to build a new electric car factory, employing 4000 workers, in the state of Kentucky, in the US, which could replace jobs for workers from Ford who used to build trucks here.)

The longer-term question is how economic development fits into a global picture of sustainability. Unless we return to foraging, and a world in which it is possible to survive that way, people will need jobs in order to create systems of exchange for the resources they require. But this brings us back to questions about the standards of living which can be supported given the current and projected human populations on the Earth. The initial fears sparked by the *Limits to Growth* projections were that the only path to sustainability would be through economic decline. (At present, that issue has only been avoided – not truly resolved.)

The models on which international economies are based simply cannot function based on massive reductions. Production requires resources and if costs for the resources increase, or we simply decide to limit production to conserve them, prices rise, making good more expensive and less accessible. In a downward spiral, people are simply not able to obtain what they need, and the consequences feared by politicians are likely to result. From an economic standpoint, we keep juggling, as we were when the Brundtland Commission issued its report in 1987:

In the end, sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs (Our Common Future, par. 30).

26.7 A Scientific Perspective

In the US, public perception and public policy development still seem to cast doubt on the reality of global climate change. Needless to say, this creates only more confusion in debates about sustainability and what needs to be done. According, though, to former US Vice President and Nobel Prize for peace winner for 2007 Al Gore (*An Inconvenient Truth*), there actually is no disagreement in scientific research about climate change. Doubt about the findings has been cast in the public media by those who seek to resist policy changes.

What does remain a problem are the individual disciplines with which scientists work, which have made seeing the larger picture difficult. Climate change and other environmental issues are not simply matters of physics, or chemistry, or biology, much less any of the thousands of sub-disciplines under those umbrellas. And those are the boundaries within which most scientists work.

It is also important to remember that scientists generally see their work to be explaining phenomena. Why is something the way that it is, and what can be expected of it? Using the information is generally left to engineers and technicians and entrepreneurs, and policy-making left to politicians. That said, consensus around at least some issues does seem to be forming, if the preliminary projections are even somewhat correct, the outcomes we face will be quite real and not just theoretical.

According to latest report by the US Climate Change Science Program and the Subcommittee on Global Change Research (*Our Changing Planet*):

Climate research conducted over the past several years indicates that most of the global warming experienced in the past few decades is very likely due to the observed increase in greenhouse gas concentrations from human activities. Research also indicates that the human influence on the climate system is expected to increase (p. 2)

While this is important information, it does not address the larger question; can we do anything about it? In a presentation to the Royal Society (October 29, 2007), James Lovelock, author of the Gaia theory, paints a very pessimistic view of human sustainability. He believes that we have passed the point where the use of alternative fuels or reductions of carbon dioxide emissions are going to make any difference to the warming trends that we are currently seeing. As he notes (in answer to a question) the last time that the Earth experienced this amount of carbon dioxide release into the atmosphere was 55 million years ago, and it took some 10,000 years for it to occur. We have released an equivalent amount in just the past 200 years, making it incredibly more difficult for natural adaptation to take place. In addition, agricultural plants do not process carbon dioxide as efficiently as natural ecosystems. And further, if we were to cease all use of fossil fuels immediately, it would only speed up the process of global warming. The aerosol particles released into the atmosphere temporarily reflect sunlight that reaches the Earth, making up for some of the reflection lost due to the melting of the polar icecaps.

The direct prospect for humans is even more depressing. Lovelock speculated that the Earth, in its current state, is probably able to support around one billion people in a sustainable fashion. At present, just the amount of carbon dioxide released by humans breathing is four times the amount generated by all of the airlines of the world combined each year.

Lovelock holds out little hope for technological remedies. He is a proponent of nuclear energy simply because it is the most viable alternative we have. He has recently supported experiments to dredge deep seawater and bring it to the surface, as a way to slow the feedback cycle of heating. (As the polar icecaps melt, darker seawater absorbs more solar heat, raising the sea temperature, releasing yet more carbon dioxide.)

26.8 A New View of Sustainability

As pessimistic as this may sound, it should not be taken as a prediction of hopelessness. Rather, it should be understood as a call for drastic changes in our approaches to sustainability. If the predictions of climate scientists such as Lovelock are even close to accurate, activities like waste recycling and building more gasoline-efficient vehicles, though laudable, will likely have minimal impact with respect to human survival. (They may still be good ideas for many other reasons that would improve the human condition and therefore should not be dismissed. The point here is focusing on strategies that will have the largest impact.)

If these climate scientists are correct, the current climate zones and ecosystems of the Earth are likely to change rather dramatically, and then eventually reach new patterns of stability. Most land areas will experience warmer temperatures, on average. There will also be an increase in heavy rain and snowfall in some areas, but an increase in desertification in others. The total effect is expected to require significant migration of humans and animals.

Human management of geographic boundaries has been less than good to-date. Stronger groups invaded other lands and territories and plundered, or took control altogether, until power changed hands. Later, imperial nations colonized whole countries and continents, taking resources and creating artificial markets and artificial cultures. More common today are strictly economic forms of colonization, and economically-driven immigration. People from places with poor economies and few jobs move to areas of greater wealth, but often only to find significant resistance and resentment from local populations.

Speculation by Lovelock (2007) is that climate change is likely to create significant immigration by US citizens to Canada, and by Europeans to Scandinavia. Much more alarming is the warning by Norman Myers (2005) of Oxford University, of the potential for 200 million environmental refugees by 2050. Were that to happen under present socio-political conditions, it could be expected to result in severe conflicts, if not outright war.

To-date, most efforts towards sustainability have revolved around technical solutions: how to mitigate harmful atmospheric emissions and their effects; what alternative energy sources to pursue; how to increase levels of food production; creating new sources of fresh water, and so on. Needless to say these are critical issues. As has been experienced time and again, though, the best technical solutions are of little value in an environment of human warfare and self-destruction.

26.9 Awareness and Information

The greatest dilemmas we face may actually be about awareness and information. Just how big, and how eminent, are the problems? Many scientists are quite pessimistic about our ability to slow, much less reverse, the climate changes which are in progress. But what will they actually mean? Recent news reports have focused on the plight of polar bears, which need the disappearing Arctic ice as habitat. Storms and flooding and unusual heat waves have affected various places in the world, but not beyond manageability for the population as a whole. Some of the largest recent catastrophes have been due to earthquakes and resulting tsunamis, but those do not appear to be related to climate change.

In the 1950s and 60s in the US, there was great concern about the potential for nuclear war. Individuals were encouraged to build fallout shelters in or near their homes. Children were taught to “duck and cover” – to fall to the ground or hide under their school desks, and cover their necks and faces, in order to minimize their risk of harm. If an actual bomb had exploded, most of these measures would have been pointless. Primarily, they kept the general population from feeling helpless. But this was in relation to a clear and known threat, following the US bombing of

Japan with nuclear weapons in 1945.

For the average person, dire predictions have often been overblown, and the ability to affect the problems generally out of reach. The threat of full-scale nuclear war has diminished largely because (a) the threat itself was in human hands, and (b) there were no good defenses against it. (It was no good killing your enemy if it assured your own death, at least in an age before suicide bombers.)

Destruction from natural disasters has been lessened through a combination of better engineering and construction practices (especially for earthquakes), and better forecasting and warning systems. These still assume regularity and predictability, though. Buildings are constructed to withstand earthquakes along known faults, such as in San Francisco and Japan. As experienced in San Francisco in 1989, though, this may only lessen – certainly not eliminate – total damage. In the case of the 2004 earthquake in the Indian Ocean which spawned the tremendous tsunami, there were no warning systems, and no buildings constructed to withstand waves up to 30 meters (100 feet) high. There was significant advance warning before Hurricane Katrina hit New Orleans, in the US, but a complex series of human errors, both in physical infrastructure and in disaster response, created significant destruction.

Most people in the world respond to immediate feedback, but ignore or dismiss delayed reactions. It is much easier to teach children not to put their fingers over lighted matches than to teach teenagers not to light cigarettes. Likewise, most people focus first on basic necessities (e.g. water, food, shelter, etc.) If these cannot be obtained, it is of little use to worry about longer-term problems. And if the larger problems seem too difficult to fix then they become equally irrelevant, just for different reasons.

This applies to wealthy and powerful people as much as to poor people in remote villages. Unfortunately, it applies to many in positions of leadership, as well. Expediency often involves greasing the squeakiest wheels rather than attending to the part that may fail and bring down the whole machine. Public policies in the US have for years allowed the infrastructure of roads and bridges to deteriorate. People have been allowed to build homes in flood plains and fire-prone regions. Purportedly in response to worsening economic conditions, the Bush administration has progressively relaxed environmental standards for industries, sought to open more protected lands for development and oil production, and recently changed regulations for protecting endangered species.

Perhaps we are, collectively, only at a stage of contemplation in terms of readiness for change. We recognize that there are problems, but are not yet ready to give up our old behaviors. At present, both the scale and complexity of human sustainability seem out of sync with our attempts to affect it.

26.10 Preparing for the Future

As humans, we are adept with using tools. They helped us move from being prey in the food chain to the highest level of predator. They eventually let us escape the atmosphere of our own planet. But in the end, tools are only an extension of the user. They have no more skill or intelligence than the one who wields them.

What we have not yet developed to any proficiency is our skill in managing social systems, and it is that on which we need to focus. If we face massive change on a global basis, how will we make decisions about governance and resources? If Lovelock (2007) is correct and many in Europe attempt to immigrate to Scandinavia, how will that work? What if Americans need resources that reside in Canada, or wish to move there? Where might hundreds of millions of people in China or India go – or how would they get resources if they had no place?

There are clearly those who will continue to dismiss dire predictions as being like the story of Chicken Little, who, after being hit with a small object in the head proceeded to run about yelling, “the sky is falling...” There are strong human tendencies for sameness and stability, and these undoubtedly have some evolutionary purpose. But with the wisdom to know that long-term consequences sometimes come quickly, like a tidal wave, when they actually occur, human sustainability may well lie in the hands of leaders with the necessary foresight and courage to take action on what others do not yet see.

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27. Recommendations

The climate change system ultimately would change living conditions within the biosphere and geography of the Earth so much that our civilization will end. Therefore we are presenting the climate change system as common enemy of our civilization, and we are

RECOMMENDING

One planet, one government is our first recommendation. Of course, The Constitution of the Planet Earth Federation is first and The Planet Earth Parliament and Government follow in line, after ratification of The Constitution of the Planet Earth Federation.

Secondly we recommend a new approach to the ***social order***, which has to reflect the present experience, and the establishment of a ***new contract for humankind*** living on the Planet Earth. The goal is to prevent explosion of humankind reproduction, enforce ethics and tolerance amongst peoples of the Earth, enforces (a globally holistic!) law and order, and with skilful governing allow the coming generations to live and have sustainable future on the planet Earth.

Thirdly we recommend ***redirections of scientific work*** from war armaments, too narrowly market-oriented and synthetic chemicals technologies, etc., to discovering viable global systems of nature, space, the environment and cosmos, as essential elements of knowledge needed for survival and sustainable future or harmony of our civilization with the Nature.