Title: "Living/Housing": Economical, Ecological, Social, Aspects and Tools.

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Keywords: living/housing, global/local, multipurpose, intelligible, workable

ABSTRACT

We are realizing more and more that there's a still growing gap between *life* and *business as usual* and aspects like environment, energy, sustainability public safety, environmental costs and legislation. A solution can be to make new combinations based upon a balance between basic needs and co-operation within geographical / natural boundaries. A most important basic need with impacts on economical, ecological and social aspects is the availability for people to live and to work in their own trustful environment mainly based upon local products and services. A basic need is the all around availability of toilets with a minimal "impact". In this paper information will be given about sustainability and development of project management and co-operation as practical steps on our way forward to a stable future. The knowledge and experience as shown is "born", developed and applied in an industrial and international situation. After my retirement, as a professor in education I've got many chances for a further dissemination in other sectors, levels and especially generations.

After the former conference in Tampere, I started an assessment model, checking the possibilities for dry toilets within situations / markets using relevant tools. I do hope this can help to make a forum for existing and new projects.

STATE OF BALANCE

	STRATEGICAL POSITION					
	COOPERATION / PHASES	MONO A	MULTI B	PROCES C	CHAIN D	NETW0RK E
8	GOING CONTINUOUSLY					
7	KEEP UP ADEQUATELY					
6	TEND TO SUBSTANTIATE					
5	ALLOW VALIDITY					
4	UNDERGO EXPERIENCE					

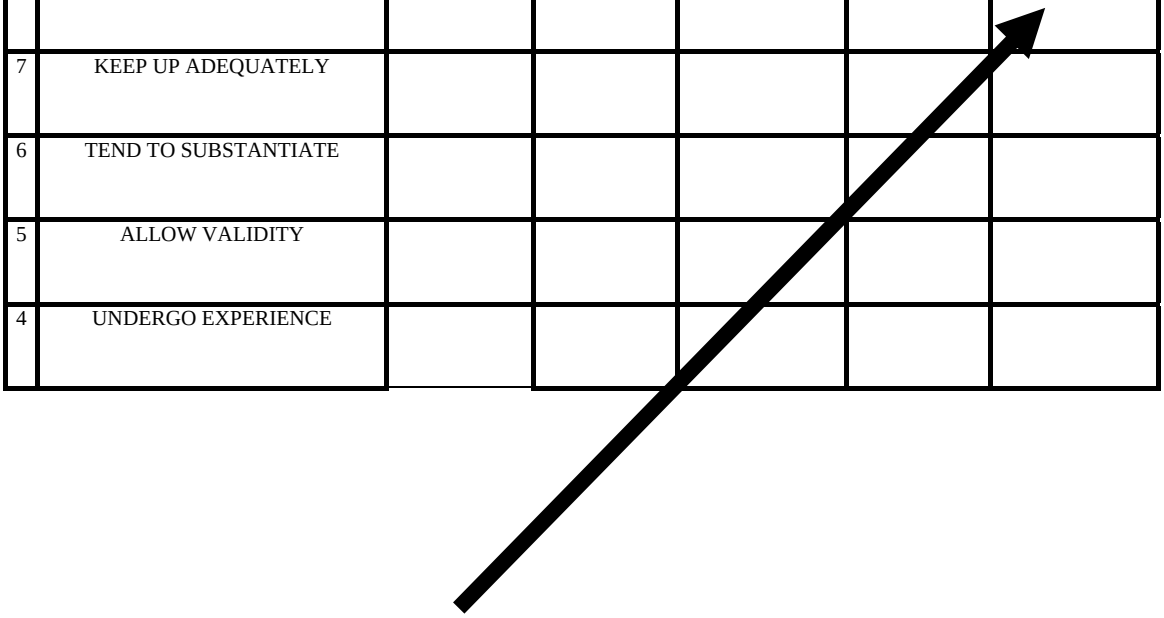


Figure 1. Development of international stability.

From the environmental point of view we have to do with geographical levels: *global, continental, river-shed* and *local.* We are getting more and more information about the threads on every level and also about urgently needed activities. It is becoming clear for everybody that there's a need for a balance of sustainability on each geographical level integrated in an overall balance.

The main problem hereby is the fact that the world is fulfilled with borders that are not natural but historical, cultural, economical, social and last but not least political. These existing boundaries many times divorce people with a common interest in future planning. To reach a stable overall balance we have to start a process for progress towards a *sustainable policy*. The first step into this direction is made by the club of Rome by means of an environmental balance. The main question now is how we can make the necessary steps forward and how can we formulate a meta-project wherein those steps can be organized and controlled.

After so many years we possibly have to conclude that the inventory of environmental aspects was the inventory of everything going wrong in *life* and *business as usual*. To

find the reasons of failure we have to go back into processes towards the decisions that leaded to the inventory as mentioned before.

In my work as an engineer I had already, before the Club of Rome experience, been in the fields of maintenance, automation and product development; as well in industry as in education. A major item hereby was nearly always, how to get time, money and personnel for a good job. Such a good job means a balance between short- middle- and long-term aspects. Short time aspects frequently got priority.

At this moment many situations are becoming more complex and even worse. To overcome the former, the present and the future challenges, it will be necessary to investigate major aspects / objectives / balances. A major role hereby must be "played" by information / automation. A major need hereby is the availability of new tools to assess possibilities and co-operation both for projects and education.

SUSTAINABILITY – STABILITY

Sustainability, stability, safety, energy, and more have become key-items in our discussion about the future of our planet. Trying to explain these items to students I found that in many languages there was no, or only a limited, explanation of these items available. Is there no history in these languages and the belonging countries about the items as mentioned before? It was quite interesting that in many (western) languages a good explanation or definition of the concept *sustain* or *stability* hardly could be found. Rather exceptional was the situation in England. In dictionaries English-English I've found a wide choice in both explanations and definitions. I even found a description of a growing line in sustainability based upon eight steps each describing a level of being sustain. The item sustainability was not mentioned but it was fully covered by the total of the eight levels.

The eight levels as found in the Concise Oxford Dictionary 1975 (English – English, fifth edition) are:

- Keep from falling or sinking → Enable to last out → Endure without giving way → Undergo experience → Allow validity → Tend to substantiate → Keep up adequately → Going continuously.

CO-OPERATION

Many persons have told me that they started alone, found other people with a similar interest, discovered a working process, came by way of that process in a chain and found at last that there was a need for a network to get final results. To analysis of the possibilities for co-operation, there will be a need for a frame of different types or levels of partnership. In my work I came across with five steps in co-operation:

1. *Mono*. This means an internal co-operation directed to the supply of an own (partly) product which is mainly directed to the next user.

2. *Multi.* This means a co-operation with colleagues to make a more complete product.
3. *Process.* The aim hereby is getting a better coherence in the working process related to the own activities and to fit in the own product.
4. *Chain.* Comparable with process but even more directed to the relation with the end-user. Increase of innovating activities and extension of the own product will be necessities on this level of co-operation.
5. *Network.* This means partnership in an integral *Life Cycle Analysis* and taking responsibility for product, process and chain as a total.

STRATEGICAL POSITION

3	ENDURE WITHOUT GIVING WAY					
2	ENABLE TO LAST OUT					
1	KEEP FROM FALLING OR SINKING					
	PROJECT-MODEL		SAND-GLAS	JAPANESE TIE	TIED	?
	SOCIAL-SYSTEM>	BELBIN	BELBIN	DESIMA	DESIMA	?
	EDUCATION PROFESSIONAL EDUCATION	PARENTS	PRIMARY SCHOOL	HIGH/ TECHN. SCHOOL	UNI-VERSITY	?

Figure 2. Assessment-model “POSITIONING”.

Putting the two lines of development together in a graph will lead to a possibility to draw an ascending line. This line can be used as a measuring instrument for getting results in sustainability of companies, organizations and activities. This will lead to a *Strategic Position Definition*. This definition will be the necessary starting point for further sustainable activities. The eight steps in sustainability form the vertical line of the graph and the five steps in co-operation form the horizontal line.

On the ascending line itself we can find three main groups:

1. On the lower part of the line we can find companies, organizations and people in their (daily) Life and Business as Usual.
2. On the middle part of the line we can find companies, organizations and people fighting for a sustainable development but many times with a lot of problems, misfortune and set-back.

3. On the upper part of the line we should find organizations or networks stimulating an overall and integrated sustainability.

The graph or perhaps better the model will give us a possibility to register the position of both activities and "workers". It will be very important, even essential, to define the *strategical* and the *tactical* position of the activities and the way that the workers will have to go to reach "The Line".

It my be clear that going to the upper right side of the model there will be a need for new methods of project-management and communication using information / automation especially based upon practical innovation. As a general view we can conclude that stability depends on coherence within the model and a societal development following the "line".

COOPERATION

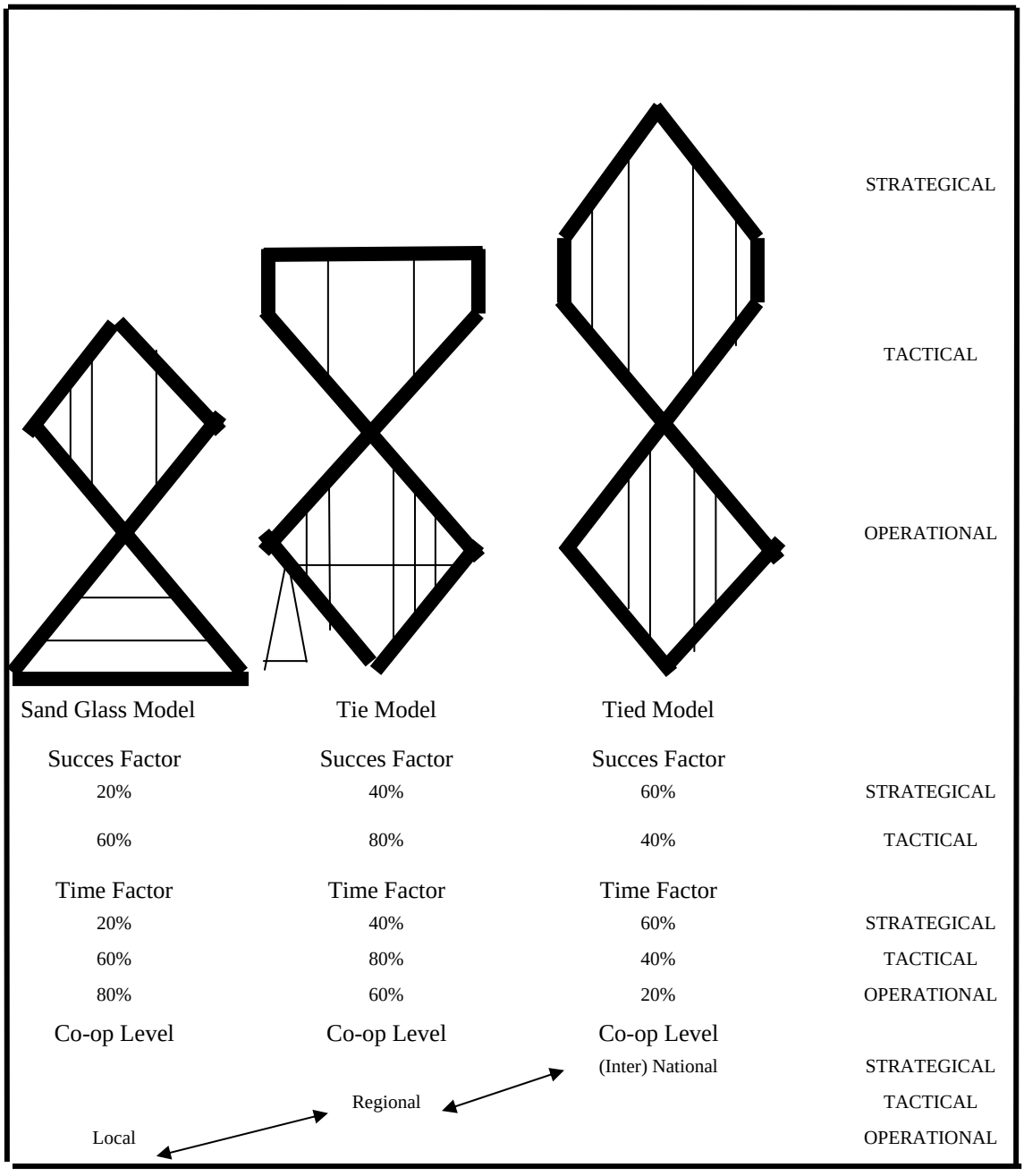


Figure 3. Assessment Model "CO-OPERATION".

There are three models which can be used in project management:

1. *The Sand-Glass-Model.* When things have to be made or done, (*Mono, multi*).
2. *The Tie-Model.* Finding main items based on knowledge of processes, (*process*).
3. *The Tied-Model.* What is the problem, who can help, how can we gain our goals, (*chain + network*).

The Sand-Glass model is mainly used in the western part of the world; the Tie-Model is mainly used in Japan. The Tied-Model is my new idea, based upon an Economical / Social / Environmental analysis and describing the steps in the project and the future costs of the project, on short-term, middle-term and long-term. It requires a new approach and new ways of communication, a long way to go but a way towards stability. Looking at the success and time factors it will be clear that the most stable base for a cooperation directed to stability will be information / automation directed to assessment and societal marketing.

ASSESSMENT

Starting new activities or investigating existing situations there are some rather new assessment tools:

- On what level (geographical, economical, social, political, ecological) the work has to be done. Where are the *strategical, tactical, operational* taken and are these decisions centralized or decentralized.
- What is the story to be told on the narrative level although to the people? I do have an experience with music, I did play my own Impact Management Blues on an international conference about *impact assessment* and my own Dry Toilet Blues on a similar conference, and everyone understood my message. Perhaps an adapted Blues will give the same result in the field of stability.
- Availability of information systems and methods and do they connect economy - ecology to give a base for consensus building
- Which project system is the most practical? *Sand Glass, Japanese Tie or Tied Model.*
- Conceptual thinking.
- Stimulation of co-operation on all sustainable levels between parties.
- Co-operation with educational organizations.

Assessment of Operational activities

- Using practical experience both for the ongoing activity as such and for making a next step in a further development.
- The relation between the ongoing activities and let's say Green Policy.

The Sand-Glass-Model can hereby be a helpful instrument.

Assessment of Tactical/Marketing activities

- Use of practical results and existing experience.
- Relations with and the support from the political and managerial (strategic) levels.
- Dissemination and testing of knowledge.
- Recapitulation of knowledge and experience for practical use.
- Relation with end users.
- Calculations of effectiveness.

The Japanese Tie-Model can hereby be a helpful instrument.

Assessment of Strategical activities

- The political support related to social aspects.
- The political support related to *Econological* aspects.
- The practical support of participants to make things work.
- Co-operation between partners with different but affiliated objectives like principals, bankers, designers, contractors and end-users.
- Formulation of integral and sustainable objectives directed to end-users, in co-operation with political aspects.

The Tied-Model can hereby be a helpful instrument.

Societal Marketing, Strategical Activities

The main goal hereby is to express and to promote the need for activities necessary for making political balances and agreements related to ecological territories. Besides of the well-known environmental threads, attention has to be given to new chances like the need for people to get more information about people in other territories.

Societal Marketing, Tactical Activities

On the *tactical* level I've chosen for the term *marketing* because of the necessity of getting practical results as well economical as ecological. Three levels of marketing are important:

- *Selling of existing products*. The end-users can make their choice and the management has to adapt these products also from an environmental view.
- *Marketing of changing products*.

The main item hereby should be to determine new target groups, their needs and how to satisfy these needs.

- *Marketing and Development of new products.*

Globalization has to be a co-operation of people on a base of mutual respect, the knowledge, necessary for this respect, can also be perhaps the best found by *sustainable*

housing. To develop new products attention has be given to history, language, contact with people and more. To go this way it's absolutely urgent to get political, economical and social balances as well by item as connected. In such a development there's a strong relation with end-users. That's why I mentioned before the need for *societal marketing*.

DEVELOPMENT AND EDUCATION FOR ECONOLOSOCIO'S DIRECTED TO NEW EFFECTIVE LEADERSHIP

In this final part of the paper I'll give attention to the earlier mentioned *strategic position* but now related to education. The main goal hereby is to "fill" the model with people who can assure that the up going line will lead to a sustainable future.

Educational aspects hereby are:

- Determination of abilities in the early years.
- Development of these abilities but also of related abilities like communication and social behavior.
- Working in groups.
- Working in *processes*, *chains* and *networks*.
- Relations between succeeding *educational institutions*.
- Relations with and within *professional education*.
- Social responsibility based upon a strong economical and ecological base.
- Narrative communication.

Communication aspects and practical experience as things of the past

- In the year 1700 Japanese Shoguns were looking for a possibility to have an outlook on new developments in the rest of the world. They made their choice for people from Holland.

The process of communication was based upon the next steps:

- Getting knowledge from abroad, the name of the communication process became *Ranguka*, knowledge from the west, a new way of thinking, a child from Holland.
- Translation of words based upon equal sound which was called *Onyaku*; translation of existing words known by both people that was called *Seyaku*; translation of new (western) words and or concepts that was called *Giyaku*.
- Dissemination of new knowledge, by means of an official function called *Rangadu*, which was a courier of knowledge.

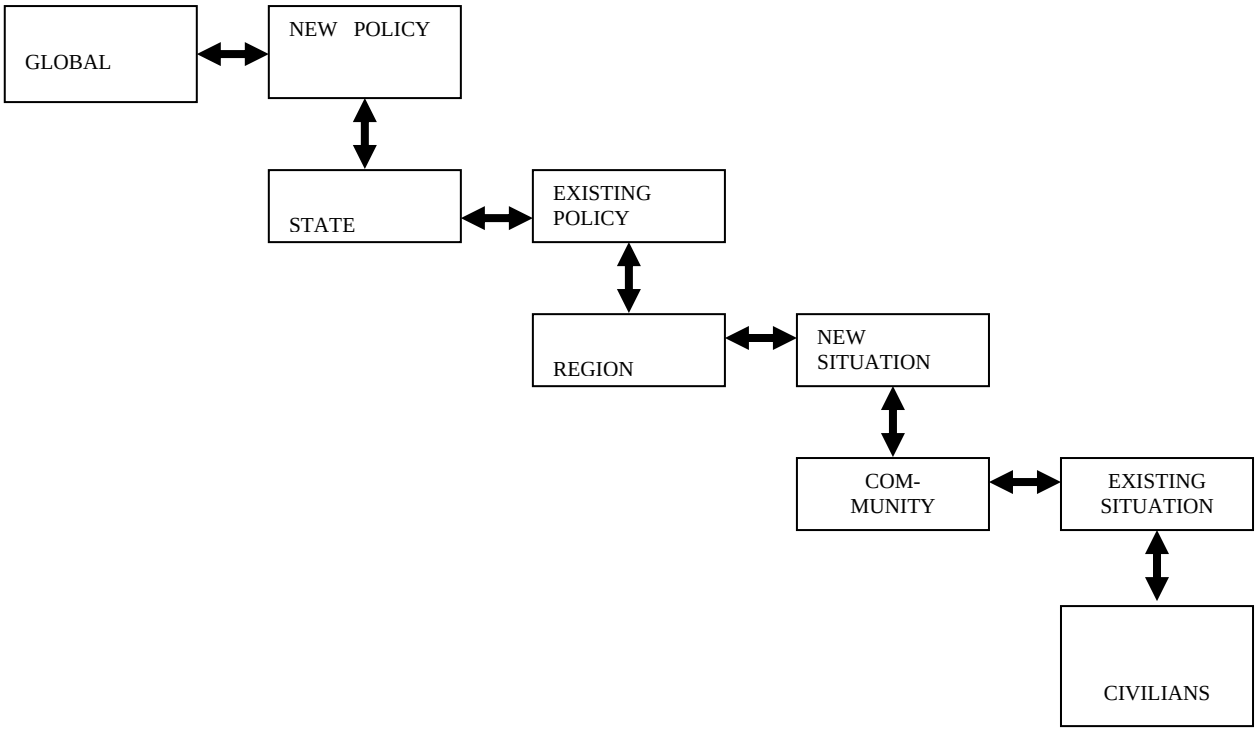
In the year 1950 I've read a book written in East Europe, in which the author complained about the very limited possibilities to take personal decisions on the one side because of the regulated society on the other side due of the lack of information. He mentioned a change on the second side when all information became available when we could use computers. He mentioned a major limitation in the beginning of such a new time; more than 90 % of the users should start swimming in the mass of information and

nearly nobody should take decisions on a higher level based on that information. He was right; we now have to take the next step.

Ir Joop van Bergen

P.S. In the presentation attention will be given to the “position” of dry toilets in different societal and economical situations. In other words the dry toilet presented in the chain of human life and solutions, depending on necessities in different rural and local situations.

POLICY MODEL



ECONOLOSOCIO MODEL

Economical, Ecological, Social