
Towards sustainable development: a complex process

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Abstract: Sustainable development is a complex societal problem belonging to the field of societal complexity and must be handled according to the scientific ideas of this field. Sustainability includes agricultural and industrial production as well as production ways. Capitalism tolerates differences in power, wealth and work. To reach a more sustainable society, capitalism should be socially based and democratically controlled by international organisations. Whether it is possible to develop a sustainable world should be carefully explored in multidisciplinary workshops using the concept of quality of life operationalised by cultural, social and economic capital. The complex process of organising societies towards a sustainable world can be guided by using the Compram methodology. The Compram methodology is developed to analyse, define, guide and evaluate complex societal problems. By using the guidelines of this methodology, one can find the causes of complex problems and suggests directions for change.

Keywords: complexity; society; capitalism; sustainable development; Compram methodology; Gross National Product; GNP; National Quality of Life; NQL.

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1 Introduction: sustainable development

One of the definitions of sustainable development is

“preventing too much damage to the earth of for contemporary and future generations.”

The damage can be done by producing non-disposable waste, by agriculture over cropping, by using up too much fossil energy, by diminishing the diversity of species or by changing the species by gene manipulation. Sustainable development means that in

the agricultural businesses and in the industrial production businesses, the conditions of the workers and the society should be sustainable. This means that animal farming, fishing, landscaping, building houses and roads, travel commodities, power plants and the organisation of work and the society should be sustainable. These desired goals of sustainable development refer to long-term goals.

2 Sustainable agriculture and industry

Sustainable development is often referred to agricultural production. The last decennia of Western agricultural business show the vulnerability of this business. Agriculture is no longer the 19th century romantic view of citizens of the rural life of a farmer or a shepherd.¹ Agriculture is business, sometimes big business, guided by computerised machines and dictated by the global market. Some of the problems these businesses have faced in the last few decades in Western Europe were ‘foot and mouth’ disease, ‘bird plague’, the ‘pigs manure disposal’ problem² and Bovine Spongiform Encephalopathy (BSE) (DeTombe, 2001b).³ All signs indicate that the business is too vulnerable, too concentrated and that there is too much monoculture. The future will bring yet unknown problems and will reveal the true consequences of gene manipulation. In general, modern agriculture as currently practiced is a non-sustainable industry (Gökmen, Kayaligil, Weber, Gökmen, Ecevit, Sürmeli, Bali, Ecevit, Gökmen, DeTombe (2004); RIVM report, 2004a).

Sustainable development applies also to industrial production. In the 19th century in Western Europe, industrial production was at the beginning of its development, a non-sustainable production field. The industry polluted the environment from mid-19th century till early 1970s of the 20th century, causing in England the ‘famous’ London smog and in Germany the severely polluted Ruhr area. In the West, the situation improved compared to air, land and water pollution in the past, however, in developing countries the pollution has increased. Threats from industry are pollution, non-disposable nuclear power waste and the yet unknown consequences of nanotechnology. Each of these problems is an example of a complex societal problem belonging to the field of societal complexity and should be handled based on the scientific methodological ideas of this field.

3 Sustainable labour and the benefits of work

Sustainable development should not only refer to agriculture and industrial production, sustainable development should also include sustainable labour conditions for workers. Sustainable work means earning enough money to maintain a family through healthy working conditions, both physical and mental. It should provide the ability to pay for a decent house and the ability to provide properly for children including healthcare and education. Child labour should be excluded,⁴ and caring for the sick and the elderly people should be considered normal. Workers should be included in the decisions on the work place, the way the work is done, which hours people should be working and in which period of their life, how and what is being produced, sold and exported. Sustainable work includes being able to say what you want to whom you want: freedom

of speech applied also within the firm. There is no democracy in a nation when there is no democracy at the work place. Also in the work place all other the human rights should be considered as normal.

At the start of the industrialisation and capitalism, people (men) worked for wages, so low that the whole family had to work to make a (family) living. People worked under terrible conditions, especially women and children (Van der Steen, 1962; Van Effen, 1898). Slowly the workers, supported by the insights of Marx (1890)⁵ and Engels, gained more power and united. Step by step, unions were formed improving the wages and working conditions of men.⁶ The unions did not fight for all people, often the women were excluded from the protection of the unions. Lower class women had to work for lower wages than lower class men. Middle class women were exiled from the labour market. While the men worked for the bosses in the factories, the women had to stay home supporting the men and children.⁷ From mid-19th century until now, many things have changed in the Western European society. Better working conditions have developed, but not without effort and not without personal and public sacrifices and fights. The conditions the unions in Western Europe fought for are now slowly diminishing. Instead of being reasonably paid and having a permanent contract the workers have to be satisfied with minimum wages, often too low to support a family and flexible contracts.⁸ The unions are losing their members and with this a large part of their power. The workers are more and more individualised.

The main goal of capitalism is to make profit, the highest profit with the least possible effort. This involves extremely high incomes for some and low wages for all the others. People have to consume; consume as much they can by buying the products firms produce. Consuming is stimulated by the pervasive visual and sound advertising. Capitalism seems to grow stronger and stronger even in former communist countries like USSR and China. Capitalism in the former communist countries is a catch as catch can capitalism, a capitalism without a solid socialist base. This creates a society of a few winners and many losers.

Until now the benefits of the industry, the extremely high salaries and bonuses go directly into the pockets of the small group of the management team, whether or not it has previously performed well.⁹ Recent developments in firms like Enron and Ahold show that the greed of the CEO's has no end and that these people do not care about the damages they do to other people. In agriculture as well as in industry the benefits of the production are mostly privatised but the costs are socialised.

What is happening in relation to equity capital and hedge funds is even more threatening. It is often said that where the money is, there is the power. Worldwide we see, the money is in the hands of the banks and the (re) insurance companies. In the last decade, there has been a rigorous form of gambling (coming up with) developing the so-called private equity capital and hedge funds. These funds speculate on the economic market often with borrowed money. They can play out and buy out all kind of companies.¹⁰ Equity capital and hedge funds not only speculate on firms, but also on basic elements of society as hospitals, energy firms, housing corporations and pension funds. Their goal is not to create a more sustainable society, but to make as much money as they can regardless of the consequences for other people. The question arises: "Why a few people should be allowed to spoil the world, to get 90% of the income and let the rest of the world work for them and pay the price?" Capitalism should be controlled and should be socially based.

4 Changing towards sustainable development

What can be done to change a society towards a more sustainable society? In the short term, sustainable production costs more than non-sustainable production. Agricultural and industrial pollution can be decreased on voluntary basis or by laws. As the past has shown, voluntary reduction seems to be very unlikely.¹¹ Firms, as has been shown in the past, are not willing to work sustainably unless they are compensated or forced by an authority they recognise. This authority can be the state government and/or a combined state authority like Europe, USA or Russia. The state can stimulate the sustainable production by subsidising (positive), by punishment (negative), by import limitations or by stimulating research (research and development) for sustainable development. Reduction by law is possible when it is accurately complied and strongly controlled. These laws should be initiated, implemented and authorised by the government. However, many political coalitions in democratic countries consist of members coming directly from the business area.¹² Business derived governments will not be the first to demand strict rules for agricultural and industrial business, on the contrary. For instance, the Bush Administration does everything to support business even if it takes a war.¹³ Business derived governments emphasise less the general benefit of all the people (which they should represent) in favour of the private business.

Even if the state wants to control the firms and stimulate them towards a more sustainable way of production, the influence on the way of production will be small. The power of the states over the firms is diminishing on the global market. Many businesses are dependent on international banks, international insurance companies and international reinsurance companies. Here is where the power is. The state loses more and more influence to international firms. There is a tendency in Western Europe, when the demands for sustainable work and production are too high in the opinion of the firms, and the government is not willing to subsidise them more than they already do, to move to countries with less demands, such as to Turkey, India or China. Here the wages are lower and the people are 'willing' to work under terrible health threatening conditions.¹⁴ The international firms operate only for their own profit, and use the people who can provide the cheapest labour (George, 2004; Friedman, 2005). These industries leave the Western countries behind with a high unemployment rate. Then the state has the task supporting the people left behind through unemployment insurance, welfare and job retraining programmes. The people in developing countries will have a job. However, the price they have to pay for their job in terms of health threats may be enormous. Sustainable development should be globalised. This prevents the firms to outplay the workers by moving to countries where there are less demands for sustainable production and working.

Changing the world needs knowledge and power and the will to change. In order to be able to do this, one should know what a sustainable world is and what it takes to reach it. How do we create a sustainable world? Knowledge is the first step. The second step is power. Where do we want to go and how can we get there. Do the people want sustainable development which will cost more and for which sacrifices have to be made? Are people willing to do this?

If we want to change the world into a more sustainable world we should make the people aware of environmental risks and risks to themselves by non-sustainable work and production. Mobilising people through education and the media, to inform them

about the threats of non-sustainable production and to learn about how to develop a sustainable country or world could be a step towards sustainable development. Knowledge about the way production is laid out, and how it affects people and the environment is important.

What is the power of the people? Citizens can have some power over a firm, when they unite, in a direct reaction to a consumers strike (negative consumer power) or indirect reaction by voting for a government that encourages sustainable development. In this way, citizens can force or stimulate sustainable production and work.¹⁵ However, the influence of the people is often limited and short. Even when people unite successfully, the effect will be small. Often they only focus on one item. Changing production this way takes a lot of energy. Sustainable development often has the image to be advocated by a group of soft world improvers. If the majority of people is in favour of sustainable development, then people can force the government to put pressure on the companies to produce sustainably. Mobilising the people's power to form pressure groups to stimulate the government to stimulate (positive or negative) a more sustainable production in their country is limited too. What is needed are worldwide organisations democratically elected and controlled by all the people of the world, that can control the international production firms, banks (transnational), insurance companies and stock markets.

5 Sustainable society and a sustainable world

What is the definition of sustainability. How can we describe the concept and measure this. Looking for a more accurate definition of sustainability, we take a definition of a Dutch bureau for advising the government on ecological issues. The institute, the RIVM, defines sustainability this way:

“In essence, sustainability is about the quality of life and the possibilities for maintaining this quality in future. What sustainability is, therefore, depends on public opinions about quality of life, the distribution of this quality across the globe, and the scientific understanding of the functioning of humans and natural systems (RIVM, 2004b, p.5).”¹⁶

This definition refers to the quality of life and the possibilities of maintaining these qualities for future generations. ‘What sustainability is, therefore, depends on *public opinions* about quality of life ...’. This means that we should try to find what sustainability means for us and for other groups, and how to reach this goal in a scientific way. This definition could be on the right track, but often public and government together have non-sustainable goals in mind. Even non-sustainable goals will often get the full support of the public. For example, consider the enthusiastic support of almost all Germans for Hitler and his fascist society during the period of 1933–1945 and the support Mao Zedong got from the Chinese population in the period of Great Leap Forward. These two governments caused the deaths of millions of people of their own people while having such extensive support.

To us ‘public opinion’ is a too vulnerable concept. In our definition of sustainable development, we would like to include a capitalism with a stable social base, as could be seen in some European countries and in Canada. This kind of capitalism could be the start of a sustainable society. A capitalism imbedded in a democracy, that demands in the

industrial and in agricultural business firms together with the government to take care for the labourers, the old and young, and the handicapped, men and women, while working for a part of the day, a part of the year and a part of their life. To produce in a sustainable way, to have a sustainable work place, including healthcare, public transportation and education, paid by the taxes. Moderating the incomes should prevent a too large gap between the rich and the poor. Taking care of everybody and making it possible to create a way of life that contains public and private responsibility while encouraging individuals to perform to one's own capacity and giving room to that of others with freedom of thought and speech and to choose one's own way of living, should be the goal in a democratic social-based society.

Sustainability should refer to the quality of life and should create these qualities for the subsequent generations. In some places on earth, life is better than in others. But sustainable development is nowhere fully performed. How to get there should be found out in a scientific way. So the definition of sustainability development, as cited before, should include the humans, and animals, this means all species and the earth as a whole. So we come to the following definition:

“Sustainability is about the quality of life and the possibilities for maintaining this quality in future, which means preventing of damage all species for contemporary and future generations.”

Now we have to define more precisely what means a ‘quality of life’. How can we define this and evaluate this concept?

6 To a new evaluation of a society: instead of GNP national quality of life

The prosperity of a state is often measured by its Gross National Product (GNP).¹⁷ All countries in the world like to increase their GNP yearly. Industrial production has a high influence on the GNP. When the industry grows, the GNP grows. This justifies the states to offer strong support to many kinds of business by direct and indirect subsidies; including funding for research, providing low priced building sites for the factories and lowering tax demands.

However, the GNP is a poor indicator for the evaluation of a society. The GNP is defined too limited. Not included in the GNP are welfare and well-being. The definition of GNP should next to agricultural and industrial production, include disposal of the wastes of industry, use of the land, environmental decay, sudden unemployment due to closing factories, diseases caused by work stress and health damage from industrial chemicals like asbestos and the health-related damages of smoking and drinking alcohol. When all these elements are included in the GNP, the real costs of industry and agricultural business would become clear (George, 1999).

The idea of sustainable society refers to the quality of life. How do we define the quality of life? Which elements should it contain and how are they related. Bourdieu, in his book *La Distinction* (1979; 1984), provides an instrument to analyse and describe a person's class based on the type of capital a person owns. Bourdieu distinguishes four types of capital and their mutual interrelation, which together form the value of a person. These are economic, social, cultural and symbolic capital.

For example, the *nouveau riches*, such as the Russian mafia in the late 1990s, has (much) a lot of money, which gives them a high economic capital; however,

they possess a low cultural capital; whereas an unemployed master student or an artist may possess very little money (economic capital) but possess much cultural capital.

As we adopt the theory of distinction by Bourdieu (Bourdieu & Coleman, 1991) and apply this to the quality of life, the quality of life of a society can be described in terms of the volume of its economic, cultural, social and symbolic capital. This is an efficient way to describe and evaluate the quality of life of a society or the world. When putting these types of capital in interrelation, we can describe the structure of the capital of a society, continent or world. This enables us to evaluate which type of capital is meagre, which are missing or should be changed and which are good and should be maintained.

Looking at the concepts of Bourdieu in relation to the analysis of the quality of life of a society we see that Bourdieu describes economic capital as possessions like money, real estate and production means (Bourdieu, 1979). These distinctions can be used directly for describing the economic capital of society. For describing a society we may add citizens level of (un)employment, differentiation of businesses, location in relation to tourists, art collections, natural and mineral resources.

With the concept of cultural capital Bourdieu relates to knowledge, skills and education (defined as diploma's), books, art elements like visual arts, musical arts and theatre. These distinctions can be used directly for describing the cultural capital of a society. We would like to add recreation (sports, parks, etc.) and kinds of religions to the cultural capital.

Social capital is described by Bourdieu as networks of actors knowing each other, this means external relations. As we translate this to cities, we can regard their social networks as relations with sister cities, for instance, with cities in developing countries, the relations to provincial and central policy makers, how a society is embedded geographically in the country (mountains, harbours), the political environment (fundamentalist, democratic), and in what way citizens may rely on governmental support. We like to add in what way citizens can rely on their personal support network (friends, family) for emotional and financial support and how this differs between social groups.

The term symbolic capital by Bourdieu can be translated for the analysis of a society as the position of the society in relation to other societies in the world. For example, an artist from New York is regarded more interesting than an artist of a place called nowhere irrespective of her or his work.

These four distinctions of capital by Bourdieu are not sufficient to describe all elements of a society. We add capital elements to it in order to be able to define the quality of life. We add ecological capital to the four types of capital already mentioned above. Ecological capital closely relates to sustainable development and healthcare elements, for instance, in relation to too much stress due to political tension (totalitarian regime), or a too heavy work load, as we have seen in many western countries (burn out, RSI) or due to industrial pollution, as could be seen in Poland between 1950 and 1990. Transportation capital is also another element that might be interesting to distinguish. It is possible to have good, efficient, clean and safe transportation for people as well as freight (as a pedestrian, a cyclist, and a car driver or by using public transportation)?

Healthcare capital is a capital also worthwhile to distinguish. Are there enough doctors, hospitals and equipment to properly take care of the health of the population?

Safety capital is a capital that is worthwhile to distinguish. Safety is a container concept. It reflects different elements within a society and is closely related to feelings of well-being and quality of life. It includes tension from earthquakes or diseases like malaria, and personal transmitted diseases as HIV/Aids. The world is threatened by many different kinds of dangers. Worldwide natural threats caused by viruses like the flu pandemic, fowl plague and HIV/Aids, local natural disasters such as hurricanes, avalanches and floods, technical dangers caused by industry like pollution (CO₂), traffic, nuclear power plants, climate change and agricultural business; manmade threats like wars, terrorism, stock exchange manipulation and internet attacks. These dangers threaten people, the economy and the stability of states.

Immigration and emigration capital is worthwhile to distinguish. This capital can be positive when a country receives many highly qualified immigrants or negative, if poorly educated and hard to employ people move into a country. Emigration can be negative for a country when it means a brain drain such as what is happening in South Africa in the late 1990s and early 21st century.

These types of capital can function as indicators for the quality of life in a society, continent or world. In this way, the quality of life can be quantitatively measured. Using the quality of life (National Quality of Life (NQL)) as an indicator instead of GNP gives a better evaluation of what is really the quality of life in a society.

7 The Compram methodology: a methodology to evaluate the quality of life and to create sustainable development

Having distinguished these capitals as analysing objects and indicators of the quality of life of a society we can start finding them, evaluating them, determining how they are related and how to get to a desired change within the interrelated types of capital. This can be (performed) accomplished by the directions of the Compram methodology (DeTombe, 1994, 2001a, 2003, 2004). The Compram methodology distinguishes several phases in the problem handling process (see Figure 1).

The above description on sustainability is in the view of the Compram methodology the first phase of the problem handling process, the phase of the awareness of a complex societal problem (phase 1.1) and the first attempt to form a mental model of the problem (phase 1.2). If we want to address this problem, the next step is to put it on the (political) agenda (phase 1.3). If we want to change the society into a more sustainable community, it is necessary to evaluate what is happening in a nation and in the world. Therefore, it is necessary to let the people know what sustainable development means, whether people are willing to support this idea, how far they want to form pressure groups and what is the point of view of the government and business firms and to which level they are willing to cooperate. Then, one can find out which kind of interventions can be made. These interventions can only be made when there is enough power to support them. The Compram methodology is a mean of determining answers in a scientific way. A methodology to evaluate the quality of life and, if wanted, to find sustainable changes. The Compram methodology is a methodology developed to deal with societal complexity. A transparent methodology based on democratic ideas in which knowledge, power and emotions surrounding a problem can be analysed and desired goals can be found.

Figure 1 Knowledge phases in the problem handling process**Subcycle 1** *Defining the problem*

- Phase 1.1* Becoming aware of the problem and forming a (vague) mental idea.
- Phase 1.2* Extending the mental idea by reflection and research.
- Phase 1.3* Putting the problem on the agenda and deciding to handle the problem.
- Phase 1.4* Forming a problem handling team and starting to analyse the problem.
- Phase 1.5* Gathering data, exchanging knowledge and forming hypotheses.
- Phase 1.6* Formulating the conceptual model of the problem.

Subcycle 2 *Changing the problem*

- Phase 2.1* Constructing an empirical model and establishing the desired goal.
- Phase 2.2* Defining the handling space.
- Phase 2.3* Constructing and evaluating scenarios.
- Phase 2.4* Suggesting interventions.
- Phase 2.5* Implementing interventions.
- Phase 2.6* Evaluating interventions.

The Compram methodology is based on the idea that complex societal problems involve three basic elements: knowledge, power and emotion. Knowledge includes lack of knowledge, data with an uncertain status, missing data, contradictory data, white spots and blind spots. Knowledge includes knowledge of the disciplines involved, field knowledge and knowledge about the actors and the phenomena.

The way Compram deals explicitly with knowledge is to start analysing the problem with a team of experts. Complex societal problems involve many disciplines, many fields, many phenomena and many actors. The knowledge needed to analyse and handle this is too much for one person to possess. Therefore, a team of people must analyse the problem and find interventions. The team of experts have knowledge of the disciplines involved, knowledge about the fields, knowledge about the actors and knowledge about the phenomena. The experts have the ability to interpret the knowledge from other areas and determine the knowledge of consequences in their own field of expertise. The knowledge experts are, in contrast to the actors, neutral towards the outcome of the problem handling process.

Complex societal problems involve actors. The actors have direct interest in a certain kind of outcome of the problem. Power plays an important role in coming to an agreement between the actors. Power is the second basic element in handling complex societal problems. Each actor has particular interests, goals and ideas towards which direction the problem should change. Each actor or group of actors has their own steering instruments to support, change or prevent changes.

The problem owner is a special actor who initiates the problem handling process. The problem owner must have legal or social rights to handle the problem, otherwise the other actors will not cooperate or will ignore the outcome of the problem handling process. The problem owner alone cannot handle complex societal problems. Other actors involved in the problem are needed for handling the

problem. These actors need to be included in the problem handling process, because without them the problem cannot be changed.

Each actor has a specific relation to the other actors. Some relations between the actors are based on common interests, others on law. Law institutionalises some rules between actors. Law specifies the rights, duties and procedures to be followed. Here law specifies the power, however, there is a large area in which rights are not specified. Here the actors should come to an agreement with each other.

Compram deals, at several moments in the problem handling process, explicitly with power. Compram deals with power differences by starting the problem handling process with a neutral knowledge expert team. This is step 1 of the problem handling process. Use of such a team prevents certain solutions being stimulated while others are neglected at an early stage of the problem handling process. Working this way means that important issues are not overlooked. The expert team analyses the power and steering instruments of the actors.

Compram includes the power of the actors by inviting them to join the problem handling process (step 2 of the problem handling process). The actors define the problem and their handling space, each with their own team.

Compram deals with societal power by reflecting on the selected interventions before implementing the interventions carefully (step 4 of the problem handling process).

Compram neutralises, where needed, the personal or domain dominance of a person in the problem handling team by giving the team members the opportunity to brainstorm anonymously.

Complex societal problems are handled by teams of people; therefore emotion is the third basic component in handling complex societal problems. Where people are involved, emotions are involved. Emotions can stimulate or block certain changes. Emotions play a role or become visible when one's personal interests are attacked or one feels that one's personal interests are being attacked. Emotions play a role in reaching a certain goal or being included or excluded in a problem handling process, or in like and dislike of certain persons in the team or of certain actors. Emotions are also involved in different views on society and prioritising certain changes.

Compram deals with emotions by prescribing that the process is led by a well skilled facilitator trained in handling group processes in order to avoid group conflicts. Negative emotions can be provoked by excluding persons or actors from the problem handling process. Including the involved, organised and non-organised actors at an early stage in the problem handling process can prevent avoidable obstruction.

Compram distinguishes six steps which are not to be confused with phases in the problem handling process. In the first step, the problem is analysed and described by a team of neutral content experts. In the second step, different actors analyse and define the problem. The third step is where the experts and actors try to find interventions that are mutually acceptable. In the fourth step, the societal reactions of the selected interventions are anticipated. In the fifth step, the interventions are implemented. And finally, the changes are evaluated from both the original perspective and the perspective of the problem as it changed during the process (see Figure 2).¹⁸

Figure 2 Steps of the Compram methodology

- Step 1* Analysis and description of the problem by a team of neutral content experts.
- Step 2* Analysis and description of the problem by different teams of actors.
- Step 3* Identification of interventions by experts and actors.
- Step 4* Anticipation of the societal reactions.
- Step 5* Implementation of the interventions.
- Step 6* Evaluation of the changes.

8 Summary

Sustainable production and sustainable work in a sustainable society would be a goal to strive for. In order to reach this goal many actors should cooperate towards the same idea. Business firms should be encouraged, persuaded or forced to produce sustainability and governments should be stimulated to establish a democratic social society. The international firms, banks, insurance companies and stock markets should be controlled by international, democratically selected organisations.

In many cases this requires quite a transition. The relatively new capitalist countries like the former USSR countries and China do not have a long tradition of sustainable working, living and producing. This should be learned, accepted and perceived as necessary. The people should be aware of the dangers of a non-sustainable society and be stimulated to use their power to pressure the government and the business. The government must then put pressure on the producers to work sustainably and should be willing to take care of a socialised-based capitalism.

This is easier said than done. In many ways the view on life should be changed for the people, the government and the business firms. To combine the power of the people towards one mutual goal will be difficult. It is not likely that the business will change their way of production without stimulation by the government or people. The power of the people and the power of the government are limited with regard to the position of the international firms.

Most people want to live a reasonable life in a reasonable safe society, where they can work and live and take care of their loved one's. Capitalism supports the idea that it is permissible for a few people to get very rich at the expense of others. This phenomenon causes much agony for many people in the world. In a sustainable society the wealth and work of a society and the world is more equally divided, and agriculture and industrial production is produced by workers working and living under sustainable conditions.

The growth of a country now is directly related to the GNP. Measuring the society on its GNP is too limited. This index is only economic based; it does not include values like prosperity and well-being. It does not include waste disposal or health damages to workers (George, 1999). The way growth is measured should be changed. The idea of GNP should be redefined to include wealth and well-being; and not only production but also waste disposal. The GNP might be best replaced by an index of sustainable development which includes the additional factors involved in determining the quality of life of a society. The definition of the GNP should be changed to include wealth and

well-being: redefined into the national quality of life: NQL. Sustainability refers to the quality of life. The quality of life can be defined in quantitative measurable concepts of types of capital inspired by the idea of Bourdieu

In the last century, we could see that the will of the people did not always favour the welfare of the majority of the people. People are able to support the good and the bad, depending on the direction of their leaders. Whether people would like to have a sustainable society and whether they are willing to make an effort to reach this goal has to be determined. What should be changed and how decisions can be made can be found out by using the Compram methodology. With the support of the Compram methodology we can determine how sustainable a society is and whether people in a particular country want to change their country into a more sustainable society.

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Notes

- ¹The agriculture is romanticised by a painter like Jean Francois Millet.
- ²The pigs manure problem is that too much manure of the pigs ends up in the (ground) water system and pollutes the water of the agricultural area. Pig breeding was strongly stimulated by the conservative (religious) Dutch governments during the 1960s–1980s. The conservative government supported the farmers in order to encourage them to vote conservative.
- ³In England and West-Europe during the period of 1996–2001, some cows were infected with BSE. BSE is an abbreviation of Bovine Spongiform Encephalopathy also known as mad cow disease. BSE disease destroys the brain of the cows. There is a danger that by eating the meat of BSE infected animals, humans can develop the deadly Creutzfeldt-Jakob (vCJD) disease. The BSE infection in cows caused much fear in the population. Many cows were slaughtered and burnt. The economic and emotional effects were severe.
- ⁴Child labour is widely spread in developing countries. This prevents the child to attend school and by doing this taking over the jobs their parents should have. In this way, poverty continues from generation to generation. The children are easy to suppress employers, often working without a contract, working under terrible health threatening conditions.
- ⁵In his Communist Manifesto, 1848, Marx encouraged the workers (labourers) of the world to unite world wide over the boundaries of the nations. Marx called the labourers the proletariat, because the only thing they possessed was their children.
- ⁶The work week reduced from 12 hr a day 6 days per week to 8 hr a day for 5 days per week with some holidays.
- ⁷The profession of housewife created for women a non-sustainable environment. The woman is dependent for her income of her husband. This creates a very unstable emotional and financial situation, particularly in cases of divorce, death or when the man gambles or drinks. Until now, women world wide do 80% of the labour and get only 10% of the income, meanwhile 50% of the women take care of their children without emotional and/or financial support of men. Until now, most women in Western Europe have been financially dependent on men. In the Netherlands, female civil servants were fired during the period from 1933 to 1969 just because they were married. In the Netherlands, women get even in 2006, 10–30% less paid than men for the same jobs.
- ⁸See riots in Paris (suburbs) and all over France in 2005 against the new law for that allows employers to give flexible contracts (two years at most) for young workers. The flexible contract creates a huge uncertainty for the young workers, because they can be very easily fired.
- ⁹Even the extremely poorly performing managers get incredible high wages and bonuses such as the management team of Ahold (Van der Hoeve), convicted for signing side letters (NRC, Dutch daily news paper, The Netherlands, May 2006) and the management team of Enron (verdicts in USA in 2006 and 2007).

¹⁰George Soros speculated on Asian currency in 1997 and played down in Asia large parts of the economic market which resulted in huge loss of capital of the Asian market with terrible consequences of the Asian employees...

“on July 2, (1997) the baht was devalued, setting off a chain reaction throughout the region’s currency markets and then, last week, around the world’s stock exchanges. While no hard number is available, the wolves that started all this turmoil were very well fed, probably with profits in excess of \$3 billion (Myers, 2003).”

¹¹See the discussion about the Kyoto protocol.

¹²See George W. Bush Administration 2000–2008 in the USA and the Dutch government guided by the Christians and the Liberals in the period of 2002–2007 (cabinet Balkenende I and II).

¹³The Iraq war (invasion in March 2003 by USA and allies) was primarily started to keep the oil reserves for the USA safe and cheap for the industry. Financing the Iraq war compromises the budgets for education and healthcare. The USA imports more than 40% of the oil needed for the industry, and of this a large part comes from Arabic countries.

¹⁴In China, India and Africa the wages of the labourer are very low. 1\$ per hour in developing countries is not unusual, minimum wages in Western Europe are around 8\$ per hour.

¹⁵See the reaction in 2005 of a part of the US consumers on the way the Walmart workers are treated. Or see the reactions of the consumers on the way the Shell oil company used the black men in South Africa in the 1960s–1970s.

¹⁶We assume here that the quality of life refers to quality of life in contemporary Western Europe.

¹⁷Gross National Product (GNP) is the total value of final *goods* and *services* produced in a year by a country’s nationals, including profits from capital held abroad (definition Wikipedia, 2006).

¹⁸For more information about complex societal problems and the Compram methodology see: <http://www.geocities.com/doriendetombe>.