



## Challenges for the National Sustainability Strategy of India

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### ***Introduction***

A commitment was made by the international community of nations to develop national sustainability strategies by the year 2002. The World Summit of Sustainable Development (WSSD) convened in Johannesburg in 2002 and pressed once again those nations that had not developed a national sustainability strategy as of the deadline to honor their commitments. A sustainability strategy, according to Agenda 21, develops and implements sustainable growth as a collaborative, participative, and comprehensive process:

“A strategy should build upon and harmonize the various sectoral economic, social and environmental policies and plans that are operating in the country.” (UNCED 1992: Ch. 8.7).

This paper takes the position that India has developed a series of projects and programs which can be classified as important elements of a national sustainability strategy. There is also a series of publications covering the requirements of a sustainability strategy (Ministry of Environment and Forests 2011 and IBEF 2010). India, however, has not yet developed a comprehensive and consistent sustainability strategy. Furthermore, it may be said that India demonstrates development patterns over the past two decades, that are both positive on one hand and, on the other hand, inhibiting or negative for sustainable development in India. Therefore, the positive cooperation in the area of sustainable development between Germany and India must be highlighted appropriately.

The economic development of India, increasingly over the past several years, deserves attention and, in some cases, even admiration. An analysis of these new trends is important in order to understand and evaluate India's current situation and future perspectives. Past analyses



have primarily concentrated on the dynamic economic growth, which has increased greatly since the early 1990s – both at the national as well as the international level. The major focus has been on GDP and foreign trade.

Another important development trend is the increasing importance of the federalist system to the economy. Until the early 1990s, Indian federalism was dominated by the central government. Then with the economic liberalization came a stronger interest in self-government and, to some extent, economic independence on the part of the federal states. The states have now discovered the opportunity to attain more independence through successful economic growth. This situation has created a growing competition in India in recent years among the states or regions. The objective of this interregional competition is to attract foreign capital. Consequently, the economic cooperation with India is being managed to an increasing degree through the federal states or separate regions and has less to do with the central government of India.

The overall positive economic development of India, however, is hindered to a great extent by several problems like poverty, pollution, regional water stress, widespread corruption, and inadequate infrastructure. It has not been possible to reduce or solve these problems satisfactorily to date (Bergé 2009: 111ff.; Zingel 2009: 133ff.). These problems may be referred to as imbalances in the context of sustainable growth. However, in this respect, few other countries exhibit such a high degree of heterogeneity as India (Rothermund 2008). Unfortunately, the scope of this paper does not permit a detailed discussion of heterogeneity in relation to sustainability. The focus here rather is on the relevance of the new paradigm of sustainable growth in finding solutions to India's problems. Reducing these problems under the framework of sustainable development provides an important contribution to the long term positive development of the country.

The next section presents a short introduction to the paradigm of sustainable development. Section three discusses the challenges that this paradigm presents for sustainable growth. First, the three dimensions are contextually defined and, subsequently, the dimensions are brought together. In section four, selected development patterns in India are classified among the three sustainability dimensions: ecologic, economic, and social. This classification illustrates the extent to which India corresponds to the demands of sustainable growth. Section five introduces a new method for developing a national sustainability strategy: the integrated



sustainability triangle. The final chapter concludes with a presentation of several problems facing the development of a sustainability strategy for India.

### ***The new paradigm: Sustainable Development***

A broad consensus has formed at the international level that suggests contemporary beliefs and management concepts – such as the commanding use of the environment, the continuing dominance of resource intensive business development, as well as indications in many national societies that tend towards restructuring – are unable to guarantee the long term ecologic, economic and social stability of the global population. In principle, these ideas are not new as demonstrated below in a few brief historical examples.

As early as 1713, Hans-Carl von Carlowitz, a mining administrator in Saxony, wrote the first comprehensive treatise about forestry, 'Sylvicultura Oeconomica'. Based on his own lifetime observations, he defined the necessity for economic management to be in harmony with the demands of nature. The problem at that time was the increased industrial demand for wood to fuel the mining and smelting industry had led to complete deforestation. It was essential to merge the economic goal of maximal long term use of the forests with the ecological conditions required for regeneration. The resulting ecologic-economic maxim: the amount of wood cut should not exceed its growth rate. This was later to become the key to sustainability policies. It basically means living on the earnings not on the substance or, from the interest not the principal. The idea of sustainability reappeared at the start of the 20th century in the concept of 'maximum sustainable yields' in the ocean fisheries: The catch should be based on the reproduction of the fish stocks in order to insure maximal, long term yields.

In this context, the fundamentals of environmental sustainability were defined long ago. Nevertheless, we can only speak of these pioneers of the Sustainable Development model in a limited way. The modern understanding is based on the equal ranking of three dimensions: environmental, economic, and social and requires the specification of a procedural model.

The ideal of 'sustainable development' is a normative agreement made by the world community. The 1992 Earth Summit resolved to support the



concept with Agenda 21 (UNCED 1992) which defines the universe of actions that can contribute to equitable ecologic, economic, and social development for present and future generations. The sustainability discussion is often carried out along various lines of argumentation whereby, the contribution to sustainable development is not always clear. There are also positive, neutral, or negative relationships that may exist between the individual goals. This makes it very difficult to give substance in an operational sense to sustainable development. Consequently, the dimensions are frequently undifferentiated and considered in isolation from one another. Further, many complex interrelationships are often ignored. For this reason a theoretical justification for the three dimensions of sustainable development is essential.

### **The requirements of sustainable development**

The challenge begins with the principle that all three dimensions of sustainable development are co-equal in rank (von Hauff and Kleine 2009). In the process, it must be taken into account that the aims of sustainable development portray an ideal state. In reality, as a rule, there are priorities in implementation to consider regarding the three dimensions. The principle applies here that an ecologic system makes it necessary to restrain economic and social actions within the limits of nature. This is made quite evident from the example of climate change. The following discussion focuses on the contextual definition of the three dimensions: the environment, the economy, and the society.

**Ecologic sustainability:** Nature, which humans need to survive, has already been overexploited to some degree in some areas. The human use of natural resources, quite evident in the consumption of raw materials, in the conversion of materials and energy flows, in the alteration of broad natural structures, or in the pollution of protective resources like the atmosphere, is progressively changing and straining our ecological systems. The pace of this transformation process has never before been so rapid and the threat potential created demands that humankind redefine its relationship to the natural basis for life. In addition to economically relevant functions, nature also provides other essential qualities: nature as a habitat for humans or as a place for esthetic pleasures (Grunwald and Kopfmüller 2006: 43). These aspects are intentionally omitted from

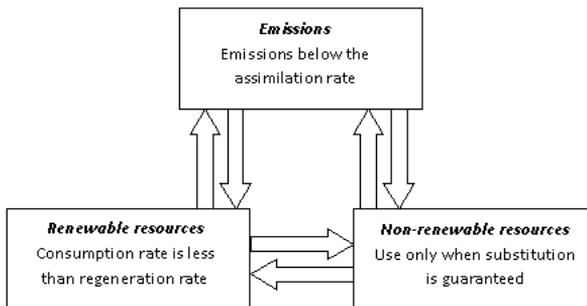


further discussion in the following paragraphs.

Ecologic sustainability aims at the conservation of the ecological systems or the environmental resources. The reason for this is that ecological systems are the life support systems for all human activity. In other words, the economic system in and of itself is not sustainable, by reason of the fact that its long term survival depends on its interrelationship with the ecologic system (Majer 2003: 937).

It is both the collection medium (cesspool) for anthropogenous emissions and the source of all raw materials used directly or indirectly by humans. In this sense, the question that arises is at what point is the optimal utilization level reached. In the field of environmental economics, there is disagreement between the proponents of weak and strong sustainability (Common and Stagl 2005: 378). Advocates of weak sustainability believe that natural resources can be replaced with capital-in-kind to the extent the overall total remains available for future generations. For example, the construction of a road may destroy a part of the forest, thereby reducing a natural resource, but it also creates more capital-in-kind. When such a substitution leads to a constant inventory of capital, weak sustainability is observed. Even the proponents of strong sustainability recognize the need to consume natural resources within a framework of modern economic processes. However, they demand compliance with the principles of action as shown in Figure 1. Furthermore, they also demand consistent protections for each ecosystem essential to human survival.

**Figure 1: Principles for sustainable development**



Source: Daly 1990: 2



**Economic sustainability:** Similar to ecologic sustainability, the goal of economic sustainability is the conservation of the economic capital. According to the dominant economic theory, technological progress enables unlimited growth and, as a consequence, the natural limits to growth received barely any mention until halfway through the 20th century. That is when the consumer theories of the British economist, J. R. Hicks (Hicks 1946: Ch.14) entered the scene. He defined individual income as the maximum amount of goods and services that an individual can consume without reducing the ability to maintain his real consumption in the future. This is the economic view of income that corresponds to the calculation of national income in overall economic planning.

Transcribing this view to a social context, social income is the amount that can be consumed by the society in one period while leaving capital intact and without degrading the future well-being of the society. Philip Lawn asked the important question: what is the impact of consumption on the environment or on the depletion of natural resources? To the extent that vital ecosystems may be depleted at a certain level of consumption, the basis for human existence may be put at risk (Lawn 2001: 18 ff.). Ruta and Hamilton raised the subsequent question: whether prosperity together with the level of consumption, should be the sole determinant of the well being of the individual. Consequently, this led them to the sustainable development paradigm: "From Wealth to Sustainability," (Ruta and Hamilton 2007: 47).

The other underlying basis for the concept of economic sustainability is the traditional growth theory. The key premise here is that any increase in the per capita growth under long term equilibrium is only possible through technical advances. However, this has been a subject of intense controversy ever since the first report of 'The Limits to Growth' by the Club of Rome (von Hauff 2007: 357). In this context, it must be noted that even the Brundtland Commission report, 'Our Common Future', emphasizes the relevance of technological progress to economic growth. The need for growth is based not in terms of fighting poverty in the developing countries, but also on its necessity in attaining intra-generational justice in the industrialized countries.

This begs the question of how technological progress affects demand for the production factors labor, real capital, and natural resources. "If the new technology increases the amounts of labor or capital without a proportionate increase in the productivity of the natural resources, the growth leads to a greater consumption of natural resources or places a



greater demand on the absorption capacity of the environment (Hildebrand et al. 2000: 32)”. On the other hand, an environmentally oriented technical advance can also lead to a decoupling of growth and the use of natural resource capital or the use of nature as a cesspool (von Hauff 2005: 211). Besides technical innovation, the decoupling can be further expanded through social and institutional innovation. In this context, we can speak of sustainable innovation.

In the context of economic sustainability it must be noted that it is not only the issue of quantitative development of growth that is being called into question, but also the measure of that growth. In the past three decades, various alternative indicators have been developed that do not measure affluence, i.e., they are not a measure of the national composite income or the per capita income. These indicators rather aim at the social well being and discussion turns to welfare indicators or the welfare approaches, like the Index of Sustainable Economic Welfare (ISEW), the Human Development Index (HDI), or the Pressure State Response Approach of OECD.

**Social sustainability:** In addition to ecologic and economic sustainability there is also a requirement for social sustainability and, in turn, the conservation of social capital. Coleman, Bourdieu, and Putnam defined social capital as the social structure of a society (Haug 1997: 4). However, in contrast to the other two forms of capital, there is no accepted standard for interpreting this term, let alone a definition.

Unlike the other forms of capital, social capital refers to social interactions linked to external factors. Analogous to economic and ecological capital, there is the view that long term exploitable stock can be accumulated for the production processes. Key elements of social capital are trust, norms, and social networks. According to Woolcock, there are four overlapping dimensions (Durth, Körner and Michaelowa 2002: 47):

- Social integration
- Horizontal social connections within a community
- Relationships between government and the civil society
- Quality of governmental institutions

For example, this concerns the existence of a transparent legal system with equal access for all, in which all are treated fairly, a functioning economic structure, marked by equal opportunity or the guarantee of



basic democratic freedoms. This provides a specific reference point for the new institutional economy.

The existence of social capital can trigger positive as well as negative effects. For example, a positive value derives from the existence of a civil society, in which there are diverse affiliations. A negative effect, for example, is the increasing power of the lobbyists or bureaucrats at the expense of the political process or to the detriment of the majority of the people. Information and Communication Technology (ICT) provides a positive economic effect on social capital as a consequence of the increasing use of the internet, which also creates previously unknown networks or a broader availability of information. This has significantly reduced the transaction costs of acquiring information (von Hauff 2003: 5). Social capital can also convey positive effects onto the ecologic capital. An intensification of social relationships can create a consensus view of some ecologically unfriendly actions as being unsocial and lead to their widespread rejection, thereby contributing to a reduced strain on the environment (Pearce and Atkinson 1998: 260).

The obvious questions are how social capital can be preserved and how future generations can benefit from current stocks. It must be remembered here that social capital is not owned by an individual; rather, it can only be held by a social network or the entire society. As the transfer of social capital to the next generation in a society is only possible to a limited extent, each generation must largely build up its own stock of social capital.

Basically, social sustainability has taken two directions. The first traces the roots of the sustainable development model: The focus is on intra-generational justice, i.e., it aims to reduce the inequalities in distribution among the countries at various stages of development. Accordingly, efforts are directed at a long term decrease in the destitution and poverty in the developing countries of the world and towards stopping or preventing the environmental crises looming on the horizon. In this area, Agenda 21 as agreed by the industrial countries is expected to make a significant contribution.

The other direction focuses on overcoming the social problems within one country. In the recent past, the industrial countries have begun to show concern for the sustainable structures, i.e., the adaptability of the social security systems to structural change. Here, strengthening participation in the work force is of major importance. In this sense, the aim continues for a fair inter-generational distribution of income and assets.



Until recently, social aspects were often assigned to the economic area. This in turn led to an unnecessarily narrow view of the social dimension of sustainable development or social sustainability (Hildebrand 2000: 37). It is not quite as simple as reducing working life to a question of the supply and demand for jobs. Especially in the industrial societies, it is a 'key measure of social integration'.

While there are relatively clear boundaries for intra-generational justice, inter-generational justice is more difficult to define. Meyer proposed that different generations are linked together by intertemporal effects (Meyer 2004: 2). This is valid at least in the case when today's actions carry over to a medium in the future. This is well illustrated by the examples of environmental pollution and social security. It would be contrary to the principles of social sustainability if there were to be a sharp decrease in today's environmental capital stock or if the social security systems were redesigned to benefit only the current generation at the expense of future generations.

The contextual differentiation of the three dimensions or three types of capital does not provide any information about the relationships among them. The search goes on for an optimal management of the three kinds of capital so as to lead to the optimal general well-being. It is essential therefore, to analyze and list the complementarities among the three kinds of capital. It is interesting to note in this context, that the relationship between ecologic and economic capital is handled quite extensively in the literature. In contrast, the importance of social capital for the other types of capital has been neglected in economic writings to date.

However, more recent discussions are ever more intensely starting to address the role and accumulation of social capital in preserving the other types of capital like 'man made capital' (capital-in-kind), ecologic capital, and human capital, as the three examples below illustrate:

- Social capital contributes to improved management and productivity of environmental capital, as awareness and a sense of responsibility for ecologic problems increases in the society.
- Social capital contributes to an increase in human capital, as empirically demonstrated by the link between higher education and greater confidence in the society.



- Social capital contributes to greater productivity and more capital-in-kind. A study by Uzzi, for example, found that inter-company contact in the form of networking in the textile industry had a positive effect on learning (Uzzi 1997: 598).

There are many examples of complementarities among the types of capital. Clean air and clean water improve human health and increase the productivity of human capital. This leads to the conclusion that synergies exist in the complementarities of two or more kinds of capital that raise overall productivity. At the same time, however, it is known that for most kinds of capital, there are marginal returns (law of diminishing returns). The amount of increase in well-being or productivity eventually starts to decline with the application of each additional capital unit. This is valid in theory with the assumption that all other kinds of capital remain constant (Mattoon & Stern 2003: 23). The theoretical basis for the three dimensions and the discussion of the relationships among them will now be followed by the development of a concept of implementation to achieve Sustainable Development.

### ***Selected development patterns in India in the context of sustainable development***

The major focus in India for sustainable development is provided by the Millennium Development Goals, which are summarized as follows: combating poverty, education, gender equality, healthcare, environmental protection, and conservation of resources as well as global partnerships. In India, there have been a series of projects and programs in the social area, clean-tech (clean energy, clean water, and sustainable agriculture), and human capital, all of which are designed to contribute to sustainable growth.

Progress has been noted in the area of renewable energy (especially wind energy), increases in agricultural growth to reduce rural poverty, funding for education, and expanded infrastructure to promote economic growth. The Ministry of Environment and Forests (MOEF) is responsible for the coordination of the diverse activities in support of sustainable development. In this respect, however, it must



be taken into account that the projects and programs which promote sustainable development often start at a relatively low level and, in some cases, are accompanied by a high degree of inefficiency.

In India today, the environmental, the economic, and the social dimensions diverge significantly from what is demanded for sustainable development. For this reason, examples are used to illustrate what role sustainable development can play in the stable growth of the Indian economy. As stated earlier the macro economic development in India has been thoroughly positive. However, looking at the ecologic sustainability, the economic sustainability, and the social sustainability there are substantial differences in what is required for the long term.

**The situation in the environmental dimension:** The overall positive macro-economic development of the last nearly twenty years has significantly contributed to the intensification of the environmental stress. It can be observed from a study of individual environmental media, for example water and air, that there is an environmental crisis in India, at least in certain regions, which has not yet reached its peak (Zingel 2009). It is becoming increasingly clear that the growing environmental crisis is developing into an obstacle for future economic growth. More specifically, in a country predominantly shaped by agriculture, the availability of natural factors of production, i.e., land and water, is critically important.

The rapid urbanization and industrialization have reduced the quality of life in the cities with the emission of harmful pollutants into the air and water. This is evidenced by the continuing industrialization and sharp rise in road traffic but also by the unresolved problem of waste disposal and the fully inadequate treatment and reutilization of waste water (Zingel and van Dellen 2002: 287 ff.). The significance of the environmental crisis as a restraint on the future economic development should become clear with the following examples.

Water is an extremely important resource for India as water is a major production factor both in agriculture and in industrial production. Agarwal and Narain, for example, have suggested that in the period from 1947 to 2001 in India, the available supply of water per resident decreased by fifty percent (Agarwal and Narain 1999). The water resources are further at risk from the high levels of contamination. The explanation for this can be found in the fact that only a small portion of the waste water produced in the major cities has



been treated in the past (von Hauff and Kluth 2005).

The prognosis for the next 25 years is that the consumption of water will double. In the near future, India will have to deal with the problem of a growing number of regions that will experience periods of water stress. The problem is already acute today in some regions. To this extent, it can be assumed that India is already aware of the solutions and relevant strategies, but has not yet implemented them because the urgency of the problem for the continued development of the country is not widely recognized among the population and, consequently, no response is forthcoming from the political system.

**The situation in the economic dimension:** An important starting point for economic sustainability is the economic strength of a country. This refers not only to the traditional indicators like GDP, but also to the quality of economic power. As an initial step, the dynamic development of the Indian economy during the past two decades must be highlighted. This economic growth cannot be attributed to the tertiary sector (service sector) alone, but rather also to the dynamic development of the industrial sector. The industrial sector consists of several especially strong growth sectors, which in turn has a positive impact on other sectors. Although the growth is primarily generated through the domestic economy, India's foreign trade has also shown positive development. This economic development has also substantially increased the average per capita income.

Despite this dynamic development, the economic strength harbors some imbalances. The fact that the secondary and tertiary sectors show greater than average rate of growth does not negate the fact that the macro-economic development still depends today to a significant degree on the primary sector. The primary sector meanwhile reflects a relatively low productivity and is, among other things, negatively impacted by climate change. Another problem is the infrastructure, which has shown a substantially lower pace of development than the overall economy. This can be said for both the energy sector as well as for the transportation infrastructure.

It is interesting to note that the tremendous dynamic in the economy is creating relatively few additional jobs in many segments of the secondary and tertiary sectors. This also explains, in part, the high percentage of approximately 80 to 90 percent in the informal sector. This also means that the majority of the working population is living without



any social security. The economic growth patterns in India identified so far have also contributed to a growing imbalance in income distribution. This leads on the one hand to a relatively slow increase in buying power for the domestic demand especially among the lower income groups. Furthermore, the growing imbalance in income distribution holds the risk of social tensions, as is already more pronounced in Southern India, but in other regions too.

**The situation in the social dimension:** Social sustainability is determined to a great extent by the degree of coherence in a society. Indian society, however, displays a strong differentiation among the various groups within the society, each having different claims and conditions of access to the institutions of education and, as a consequence, also to different jobs (Jürgenmeyer and Rösel 2009: 206ff.). The Indian social structure is still today characterized to a large extent by the caste system, but also by a gender gap and, in turn, by the resulting social gap between urban and rural populations. In particular, the Indian social structure is clearly reflected in the educational system, as discussed briefly in the following section.

Education is a human right and in the self-interests of the general society, one that should be demanded and put into practice: If the output of education is human capital, every citizen should have an optimal and efficient education to insure the full human capital potential of the nation is realized. This has a special applicability for emerging nations like India. An analysis of the development and current situation India reveals that regional- and group-specific disparities in the education system have narrowed. However, the disparities today are still relatively great in comparison to other countries.

In principle, the disparities observed in the Indian education system mirror the heterogeneity of the Indian society. Equal opportunity to date has only been established to a limited extent. There is a great deal of imbalance between the various social groups and regions. Correspondingly, India is also lacking the economic rationality to take full advantage of its human capital potential.

There are various causes and explanations to be analyzed in terms of the new political economy (Brosch and von Hauff 2009). It is logical to focus on the privileges accorded to certain social groups, which in turn defend this practice – a phenomenon not unique to India. It has been very difficult for the successive Indian governments to challenge



what is often an informal system of privileges and to reduce or eliminate the practice. It is remarkable that in India's educational politics there are some interesting and promising approaches which to date, unfortunately, could not be consistently implemented.

It can be said in conclusion that the situation in India today remains quite distant from sustainable development. This situation has a long term negative effect on the nation's development. If and to what degree this will lead to social tensions cannot be determined at the present time. Of course, in this process it is possible for India to develop a national sustainability strategy. A methodical process for achieving precisely that is introduced in the following section.

### ***The integrated sustainability triangle – a method for developing and implementing a sustainability strategy***

The ecologic, economic, and social dimensions are to be reconciled as being of co-equal rank, so that the needs of current and future generations can be satisfied. In the process, people continue to interact within their social and economic systems, while at the same time, ensuring the long-term preservation of the natural basis of life through a sustainable consumption.

Each of the three dimensions is a co-equal component for sustainable growth. Correspondingly, only all three dimensions taken together form a viable concept. On the one hand, this means that each issue is to be weighed according to its ecologic, economic, and social aspects. On the other hand, – as mentioned above – prioritization is by all means possible: Some topics of relevance to sustainability tend to be ecologic in nature while others are more social and economic, etc. The unique features of sustainability relevant issues can be represented in the integrated sustainability triangle.

In the new method, the interrelationships among the three dimensions are identified and respectively labeled in the interior of the triangle. The three dimensions are brought together to take account of the growing demands of integration. The integrated sustainability triangle is differentiated into different areas, to which the various subject areas of sustainable development can be assigned. The challenge is in finding a structure that allows further operationalizing.



Figure 2 illustrates how the different areas of the integrated sustainability triangle can be systematized. Subsequently, the separate areas of sustainability are sub-divided into fields of action. Take for example, the area "C Economic power," and you must then, in this case, consider the fields of action "Value creation," "Provisions for the future economy," and "Innovation."

**Figure 2: The interior of the integrated sustainability triangle**



**Sustainability Area**

A Natural basis of life

B Resource consumption

**Field of action**

- A.a Biodiversity
- A.b Environment
- A.c Climate protection and renewable energies
- B.a Resource productivity
- B.b Ecological effectiveness
- B.c Land use
- B.d Consumption and Production



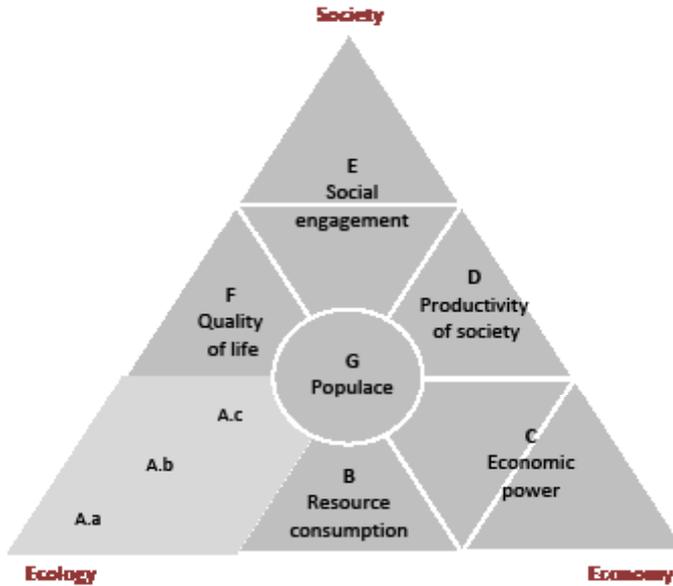
C Economic power	C.a Value creation C.b Provisions for the future economy C.c Innovation
D Productivity of society	D.a Employment and income D.b Governmental capacity to act D.c Education and qualifications D.d Perspectives for the family
E Social engagement	E.a Cultural programs in Rhinland-Palatinate E.b Citizen engagement E.c Cooperative development
F Quality of life	F.a Mobility F.b Rest and recreation F.c Safe and secure communities F.d Urban development and housing
G Populace	G.a Health and nutrition G.b Demographic trends

When addressing an individual sustainability area, it is possible to break that area down into separate fields of action as the figure on the previous page illustrates. Indicators are then derived and assigned to these fields of action. In Figure 3, for example, the sustainability area "Natural basis of life" is examined in more detail. In this case, the related fields of action biodiversity, environmental and climate protection, and renewable energies are selected. The selected indicators like wildlife preserves, quality of surface waters and air quality are then assigned to these three fields of action.

In this systematic, it must be also be taken into account that the indicators are not only assignable to a single field of action, but over a longer period of time they can be depicted in a statistical time series. In this way, it is possible to show the developments in a single indicator. Subsequently, it becomes the task of government to set goals for the individual indicators. The goals are then defined in more detail by setting a specific time window. This is illustrated in the example of support to renewable energies. The goal may be formulated as follows: Increase power generation from renewable energy sources by 25% in the period from 2010 to 2030.



**Fig. 3: Sustainability Area**



**Sustainability Area A  
Field of action**

**Indicator**

A Natural basis of life

- A.a Biodiversity
- A.b Environment

A.c Climate protection and renewable energies

- Wildlife preserves
- Quality of surface waters
- Air quality
- Nitrogen surplus
- Forest condition
- Greenhouse gas emissions
- Renewable energies (primary energy use)
- Renewable energies (gross power consumption)



The integrated sustainability triangle enables the systematic analysis of the interdependencies of economic, ecologic, and social fields of action. This system prevents any consideration of the fields of action in isolation from one another or, the undifferentiated merging of fields. Sustainable growth requires a joint process with the participation of government, business, and society. The key actors such as the responsible ministries, associations, corporations, and social organizations each have an important role to play. Each must be integrated from the start in the development of a sustainability strategy and then share responsibility for its implementation.

### **Consideration of restraints**

In conclusion, it is necessary to ask if there are any typical "Indian restraints" in developing and implementing a national sustainability strategy. In this respect, Mahatma Gandhi made a very poignant observation: "The earth provides enough to satisfy everyone's need but does not provide enough to satisfy everyone's greed." This, of course, is not a phenomenon exclusive to India, but it is applicable to India. Although globalization – in the sense of the increasing international exchange of products, services, concepts, and people – contributes to a convergence of the problems as well as the solutions, there is also a country-specific explanation for the restraints encountered in the development and implementation of a sustainability strategy in India. For example, when Zingel looked at the environmental problems in India, he came to the conclusion that there is a close relationship between ecological and social problems (Zingel 2009: 152).

The environmental problems in India reveal that in addition to economic and social components, there are, to a significant degree, also domestic and foreign considerations, security issues, and religious aspects. It is striking to note that the strong government of India has created and continues to develop many differentiated legislative efforts. Examples include equal opportunity laws for the various groups within the society, the development of large scale programs designed to solve the problems of specific segments of the population, and also the structural organization of various areas of government, for example, for financial policy, economic policy, educational policy, and even foreign trade policy.

However, when attention is focused on the implementation and control



of the various policy goals, the Indian government may be viewed as relatively weak. It is particularly evident at the lower levels of government and administrative positions, that substantially better solutions are found for the economically well-to-do and the better organized groups. This explains why the development and, especially, the implementation of a national sustainability strategy in India faces several fundamental obstacles.

It can be observed that the social and political realities in India exert strong pressure on the political actors to seek compromise with the other social groups. After all, the governmental actors want to escape the risk of political insignificance or even their own downfall (Jürgenmeyer 2009: 85). Still, it is fair to expect that at least some percentage of India's new middle class along with an increasingly powerful civil society, will raise the level of awareness for sustainable development and the respective demands on the politicians will be met with a growing attentiveness in the future.

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