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# Challenges for a National Sustainability Strategy of India

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**Abstract**

At the Earth Summit in Rio de Janeiro in 1992, the international community declared sustainable development to be the new guiding principle for the twenty-first century. This was followed in the late 1990s by a resolution that every country should develop a national sustainability strategy by the year 2002. This was to be updated in the following years (continuous development). It was clear that sustainable development is a long range process for individual countries like India. This paper begins with a discussion of the general requirements to be addressed by a national sustainability strategy. It goes on to discuss the Indian national sustainability strategy as an example of how these can be properly integrated.

In this regard, the fact must be taken into account that since 1991 the Indian economy – as measured by GDP – has been very successful. However, as a performance measure, pure economic success is inadequate in the context of a national sustainability strategy. A true evaluation of India's sustainability strategy demands that environmental and social indicators are also considered. Under this condition, India exhibits deficits that are evident on the basis of selected indicators, particularly in the area of environmental and social progress. This paper will analyze several selected indicators in support of this conclusion.

**Keywords**

sustainability strategy, world summit, three dimensions, sustainability triangle, fields of action

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## 1. Introduction

A commitment was made by the international community of nations to develop national sustainability strategies by 2002. The World Summit of Sustainable Development (WSSD) convened in Johannesburg in 2002 and once again pressed those nations that had not developed a national sustainability strategy to do so and honor their commitment. 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: Chapter 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 2002, IBEF 2010). India, however, has yet not developed or published a comprehensive and consistent sustainability strategy. It may be added that while over the past two decades India has demonstrated positive development patterns, some inhibitive or negative trends for sustainable development are also present in India. The thesis of this paper is that India can develop and implement a consistent sustainability strategy. The following presentation depicts a pathway to achieve it.

The economic development of India over the past several years deserves recognition and, in some respects, even admiration. An analysis of new trends is important in order to understand and evaluate India's current situation and future perspectives. Past analyses have primarily concentrated on dynamic economic growth, which has increased greatly since the early 1990s at both the national and the international levels. The major focus has been on GDP and foreign trade.

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

The overall positive economic development of India, however, is hindered to a great extent by problems such as poverty, pollution, regional water stress, widespread corruption and inadequate infrastructure. To date, it has not been possible to satisfactorily reduce or solve these problems (Bergé 2009: 111–112; Zingel 2009: 133–134). 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. Rather, the focus here is on the relevance of the new paradigm of sustainable growth in finding solutions to India's problems.

Section 2 presents a short introduction to the paradigm of sustainable development. Section 3 discusses the challenges that this paradigm presents for sustainable growth. The three dimensions are contextually defined and, subsequently, discussed in relationship to one another. The reason for this is that a national sustainability strategy depends on the context of the three dimensions or the paradigm of sustainable development.

Section 4 concentrates on selected development patterns in India and classifies them according to the three sustainability dimensions: ecological, economic and social. This classification illustrates the extent to which India reflects the demands of sustainable growth. Section 5 introduces a new method for developing a national sustainability strategy: the integrated sustainability triangle. Finally, Section 6 concludes with a presentation of several problems facing the development of a sustainability strategy for India.

## 2. Sustainable development: a new paradigm

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 and indications that point to restructuring in many national societies – are unable to guarantee the long-term ecological, economic, and social stability of the global population.

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 ecological, economic and social development for present and future generations. Often it is not clear how arguments in the sustainability discussion contribute to sustainable development. Moreover, there may also be positive, neutral, or negative relation-

ships 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. Furthermore, many complex interrelationships are often ignored. For this reason a theoretical justification for the three dimensions of sustainable development is essential.

## 3. The requirements for sustainable development

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

### Ecological sustainability

Nature, the basis of human survival, 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 and 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 resulting threat potential demands that humankind redefine its relationship with 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 / Kopfmüller 2006: 43). These aspects are intentionally omitted from the discussion in the following paragraphs.

Ecological sustainability aims at the conservation of ecological systems or 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 is not sustainable in and of itself by reason of the fact that its long-term survival depends on its interrelationship with the ecological system (Majer 2003: 937). It is both the collection medium (cesspool) for

anthropogenic emissions and the source of all raw materials used directly or indirectly by humans.

**Economic sustainability**

Similar to ecological sustainability, the goal of economic sustainability is the conservation of economic capital. According to mainstream economic theory, technological progress enables unlimited growth and, as a consequence, the natural limits to growth received barely any mention until halfway through the twentieth century, when J.R. Hicks, a British economist, published his consumer theories (Hicks 1946: Ch. 14). 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. 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: 18ff.). The other underlying basis for the concept of economic sustainability is traditional growth theory. The key premise here is that any increase in per capita growth under long-term equilibrium is only possible through technical progress. However, this has been a subject of intense controversy ever since (the first report of) *The Limits to Growth* by the Club of Rome (v. Hauff 2007: 357).

In the context of economic sustainability, opinions are divided on the quantitative development of growth, but it must be noted that the measure of that growth is also being called into question. In the past three decades, the various alternative indicators that have been developed do not measure affluence, i.e., they are not a measure of national composite income or per capita income. These indicators measure social well-being, and discussion revolves around welfare indicators or welfare approaches, such as the Index of Sustainable Economic Welfare (ISEW), the Human Development Index (HDI) or the Pressure State Response Approach of the OECD. More recently in this regard, the Stiglitz study in particular has received much attention (Stiglitz et al. 2009).

**Social sustainability**

The social dimension is gaining increasing attention in the debate over sustainable development. Realistically, until now it never had the level of significance enjoyed by the other two dimensions. Nevertheless, the idea of social sustainability, which focuses on social cohesion as understood through the humanitarian ideals of liberty and justice, is no less important than the

other two dimensions in guaranteeing the future sustainability of a society or an economy (v. Hauff / Schiffer 2010: 1). For this reason, the term "cohesion function" is used in conjunction with social sustainability.

One possible theoretical approach to social sustainability is found in the New Institutional Economics (NIE). According to this theory, it is all about formal and informal standards and rules, which can either promote or impair the long-term cohesion of a society. An important concept in the New Institutional Economics is the transaction costs approach, according to which all assets have both physical as well as ownership features; transaction costs accrue with any changes in the latter (North / Wallis 1994: 611 ff.). In practice, the transaction costs can vary (Scott 2006: 207). In the context of social sustainability, this means that a norm that promotes social cohesion is accepted by society when the marginal utility (e.g., safety) exceeds the marginal costs (e.g., the restrictions on individual rights) (v. Hauff / Schiffer 2010: 15).

A contextual differentiation of each of the three dimensions can only describe the interrelationships among them to a limited extent. Therefore, it is essential to analyze and illustrate the complementarity of the three dimensions. In the recent debate, there is more discussion of the role of social capital, for example, in the preservation, accumulation and productivity of two other kinds of capital, i.e., capital in kind (real capital) and natural capital. This is evident in areas like the stability of the law, equal rights, and participation (e.g., civic involvement), which are categorized under social sustainability. However, environmental sustainability can also make a valuable contribution to economic sustainability: For example, clean air and clean water improve human health and increase the productivity of human capital. It may be said that the synergies arising from the complementarity of two or more kinds of capital can improve the overall quality of life.

## 4. Selected development patterns in India in the context of sustainable development

In India the major focus for sustainable development is provided by the Millennium Development Goals (MDG), 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. Areas of progress include 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. However, it must be taken into account that the projects and programs to 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, economic and social dimensions diverge significantly from what is needed 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, macroeconomic development in India has been thoroughly positive. However, when looking at ecological sustainability, economic sustainability and social sustainability there are substantial differences in what is required for the long term.

**The environmental dimension**

The overall positive macroeconomic development of the last nearly 20 years has significantly contributed to the intensification of environmental stress. That there is an environmental crisis in India, at least in certain regions, which has not yet reached its peak, can be observed from a study of individual environmental media, for example water and air (Zingel 2009). It is 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 emission of harmful pollutants into the air and water as a result of rapid urbanization and industrialization has reduced the quality of life in the cities. This is evidenced by the continuing industrialization and sharp rise in motorized traffic, but also by the unresolved problem of waste disposal and the fully inadequate treatment and reutilization of waste water (Zingel / van Dillen 2002: 287ff.). The example of water highlights the significance of the environmental crisis as a constraint on future economic development. Water is an extremely important resource for India, as it is a major production factor both in agriculture and in industry. 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 experience periods of water stress.

**The economic dimension**

An important starting point for economic sustainability is the economic strength of a country. This refers not only to traditional indicators like GDP, but also to the quality of economic strength. 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 to the dynamic development of the industrial sector as well. The industrial sector consists of several especially strong growth sectors, which in turn have a positive impact on other sectors. Although growth is primarily generated through the domestic economy, India's foreign trade has also improved. This economic development has also substantially increased average per capita income.

Despite this dynamic development, the country's economic strength harbors some imbalances. The fact that the secondary and tertiary sectors have greater than average rates of growth does not negate the fact that macroeconomic development still depends to a significant degree on the primary sector. Productivity is relatively low in the primary sector, which is also negatively impacted by climate change. Another problem is infrastructure, which has developed at a substantially slower pace than the overall economy. This can be said of both the energy and the transportation sectors. It is interesting to note that this tremendous dynamic in the economy is generating relatively few additional jobs in many segments of the secondary and tertiary sectors. This also explains, in part, the high percentage of jobs, approximately 90 percent of which are in the informal sector. This also means that most of the working population does not have any social security. The economic growth patterns in India identified so far have also contributed to a growing imbalance in income distribution. This results in a relatively slow increase in domestic demand, especially among the lower income groups.

**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 society, each having different claims and conditions of access to the institutions of education and, as a consequence, also to different jobs (Jürgenmeyer / Rösel 2009: 206ff). The Indian social structure is still 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 interest of society in general, 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 ensure the full human capital potential of the nation is realized. This applies in particular to emerging nations like India. An analysis of the development and current situation in India reveals that regional and group-specific disparities in the education system have narrowed. However, the disparities are still relatively large in comparison to other countries.

In principle, the disparities observed in the Indian education system mirror the heterogeneity of Indian society. Equal opportunity to date has been established only to a limited extent. There is a great deal of imbalance between the various social groups and regions. Correspondingly, India also lacks the economic rationality to take full advantage of its human capital potential. A number of causes and explanations can be analyzed in terms of the new political economy (v. Hauff 2010). 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 successive Indian governments to challenge what is often an informal system of privileges, let alone reduce or eliminate the practice. It is worth noting that in India's educational politics there are some interesting and promising approaches which to date, unfortunately, could not be consistently implemented.

In conclusion, the situation in India today is still far removed 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 presented in the following section.

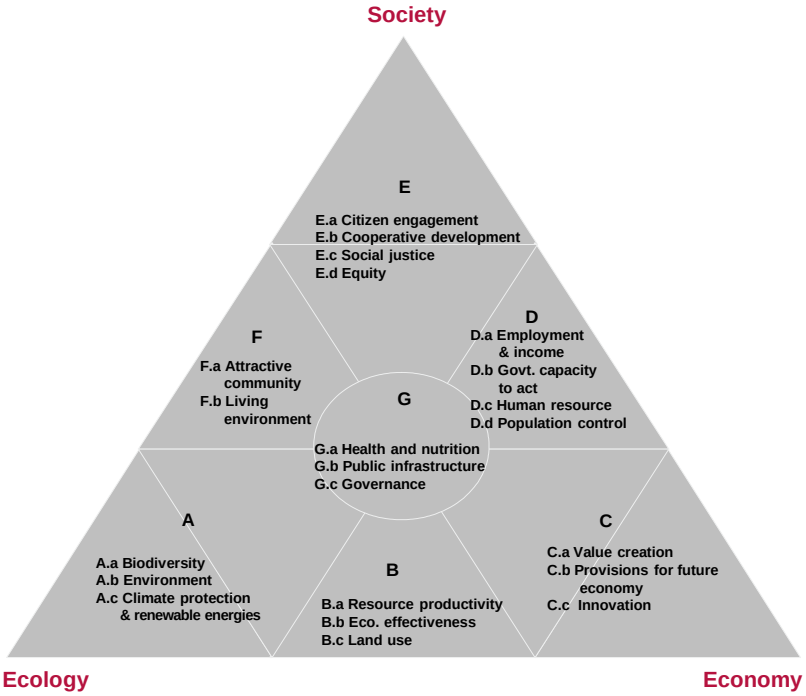
## 5. The integrated sustainability triangle: a method for developing and implementing a sustainability strategy

To satisfy the needs of current and future generations the ecological, economic and social dimensions must be reconciled as co-equals. In the process, while people continue to interact within their social and economic systems, the long-term preservation of the natural basis of life must be ensured through sustainable consumption. Each of the three dimensions is a co-equal component for sustainable growth. Correspondingly, only when all three dimensions are taken together is a viable concept possible. On the one hand, this means that each issue is to be weighed according to its ecological,

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 ecological in nature while others are more social or economic. The unique features of sustainability issues can be represented in the integrated sustainability triangle.

The integrated sustainability triangle enables the systematic analysis of the interdependencies of economic, ecological and social fields of action.

FIGURE 1: Fields of action under the sustainability dimensions

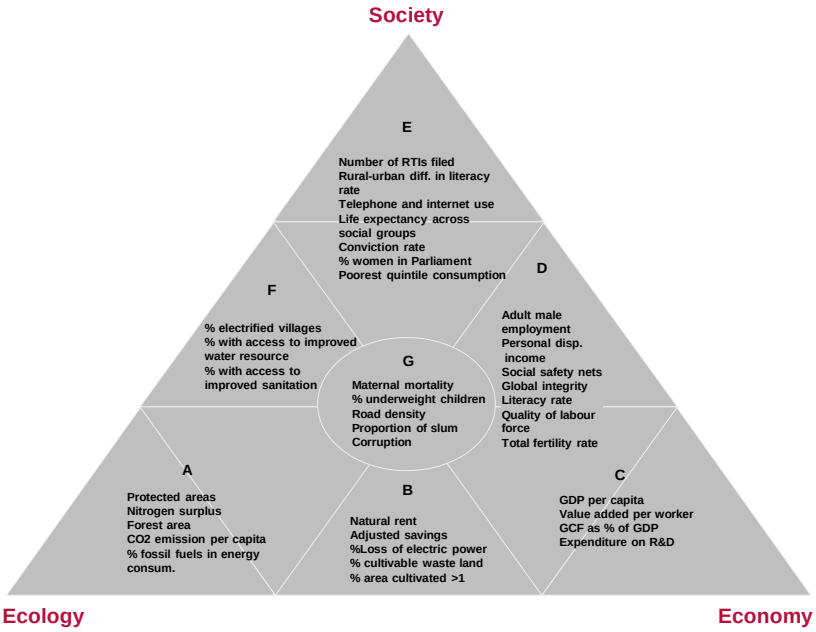



Source: Based on v. Hauff / Kleine 2009

This system prevents the consideration of the fields of action in isolation from one another, or the undifferentiated merging of fields. Sustainable growth requires such a joint process with the participation of government, business and society. As key actors, the responsible ministries, associations, corporations and social organizations each have an important role to play.

Each must be integrated from the start in developing a sustainability strategy and share responsibility for its implementation. In the new method, inter-relationships among 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 several areas to which the various subject areas of sustainable development can be assigned. The challenge is to find a structure that allows further operationalization.

FIGURE 2: Assignment of indicators under each field of action




Source: Based on v. Hauff / Kleine 2009

Figure 1 illustrates how the different areas A to G of the integrated sustainability triangle can be systematized. The different areas are: natural basis of life (A), eco-efficiency (B), economic power (C), productivity of society (D), social cohesion (E), quality of life (F) and population (G). Subsequently, these separate areas of sustainability are sub-divided into fields of action. Take for example area C, economic power. In this case, the fields of action to be considered are: value creation, provisions for the future economy and innovation.

Under each field of action, there are several selected indicators. These indicators are shown in Figure 2. In the example of natural basis of life (A), the indicators are protected areas (both marine and terrestrial), nitrogen surplus, forested area, $CO_2$ emission per capita and percentage of fossil fuels in energy consumption. These indicators are then assigned to the three fields of action shown above.

In this system, it must also be taken into account that the indicators are not only assignable to a single field of action, but can also over a longer period of time be depicted as a statistical time series. In this way, it is possible to show the changes 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 for renewable energies. The goal may be formulated as follows: Increase power generation from renewable energy sources by 25 per cent in the period from 2010 to 2030. In the following paragraphs, a quantitative analysis and development of the fields A, E, C and G illustrate an important requirement for the policy-making process.

### A. Natural basis of life

The three fields of action that have to be considered in this regard are biodiversity, environment and climate protection and renewable energies. Protected areas, both marine and terrestrial, are vital from the view point of biodiversity conservation. Though its share increased slightly from 6.5 per cent in 1990 to 7 per cent in 2006, it is abysmally low compared to 21.6 per cent at the world level. Where the shares of marine and terrestrial protected areas at the world level in 2006 are 12.5 per cent and 9.1 per cent, the corresponding figures for India are as low as 5.3 per cent and 1.6 per cent. The surplus emission of nitrogen has several adverse impacts on the eco system. India's share of the total amount of nitrous oxide released in the world between 1990 and 2005 has increased markedly from 5.9 per cent to 7.5 per cent (World Bank 2010). The prevalence of wrong agricultural practices is the most important source of nitrous oxide emissions in the country, accounting for more than half of all emissions (Magcale-Macandog et al. 2010).

The percentage of area under forest cover is a very important factor in ecological sustainability and is very closely linked to climate change. India is one of the few developing countries which has increased the share of its forest cover in the last two decades (World Bank 2010). The land use statistics of the country show that the share of the forest cover increased from 14.2 per cent in 1950–51 to 22.8 per cent in 2000–01. This is a

positive indication of the effective actions that the government has taken toward maintaining ecological stability. The long-term change in weather conditions all over the world has focused the attention of all countries on the challenge of climate change, especially those due to anthropogenic factors. Thus the emission of major greenhouse gases like $CO_2$ and methane, and the share of fossil fuels in energy production can indicate the extent to which a country is adding to climate change. In India the per capita emission of $CO_2$ increased from 0.3 metric tons in 1960–61 to 1.3 tons in 2005–06. That being said, India's per capita emission of $CO_2$ in 2005–2006 was 70 per cent less than the average world emission of 4.5 metric tons (World Bank 2010).

**B. Economic power**

The three fields of action to attain economic sustainability examined under area C are value creation, provisions for the future economy and innovation. Economic sustainability is as important as social and ecological sustainability for achieving overall sustainability. The value of goods and services produced within a country in a year divided by the average population of the country in the same year is a widely used indicator for capturing the overall economic well-being of the population. Nevertheless, it must be remembered that these are average values that only partly reflect the actual situation of an individual person. In India, real GDP per capita rose from $427 in 1980–81 to $2300 in 2005–06, while global GDP per capita was close to $9000 in 2007–08 (World Bank 2010). Compared to the developed countries and also to the world as a whole, GDP per capita (PPP) in India is low. Another indicator of economic development is the value added per additional worker. As more than half of the country's total work force is employed in the agricultural sector (Planning Commission 2008), the value added per worker in agriculture is a good proxy for value creation in India. It increased from $304 in 1980–81 to $443 in 2005–06 which is much lower than the world average (World Bank 2010).The gap between value added per agricultural laborer in India and that at the world level is roughly $600 (Government of India 2009b). This is mainly due to factors such as the traditional and outdated methods of farming and irrigation and fragmentation of land due to population pressures.

For sustainable economic growth it is very important to invest for future generations. The money invested to create capital in the form of infrastructure and other types of assets as a share of GDP is a good indicator of our concern about not only present economic growth, but also the well-being of future generations. In 1975–76, gross capital formation as a share of GDP was 23.6 per cent for the world as a whole, while it was 18.8 per

cent for India. By 2005, the corresponding share of India had risen to 34.7 per cent, compared to 21.9 per cent worldwide (World Bank 2010). This is a positive sign, pointing to the sustainability of the current high rate of economic growth in the country.

Ecologically oriented technological development can widen the scope for development by overcoming resource constraints and can contribute substantially to achieving a sustainable development strategy. The share of GDP spent on research and development is a proxy indicator for the steps taken to cope with the present problems and measures taken to achieve - sustainability from social, economic and ecological points of view. The statistics show that this indicator is much lower in India than at the world level. It increased from 0.65 per cent in 1995–96 to 0.8 per cent in 2006–07, whereas the share of world GDP spent on research and development stood at 2.1 per cent in 2006–07 (World Bank 2010). This demonstrates the urgent need for greater investment in research and development in India.

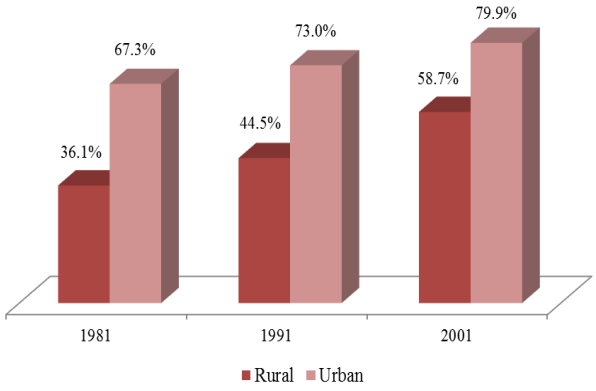
### C. Social cohesion

The extent of social cohesion is based on four major areas: civic engagement, cooperative development, social justice and equity. Civic participation is a significant factor of social cohesion, which again is crucial for sustainable development. The Indian government's Right to Information (RTI) Act gives Indian citizens a means of interacting directly with the government. The act empowers every citizen to seek any information from the government, inspect any government document and seek certified photocopies of any measures in force. The number of (RTI) applications filed since the act was signed into law has increased by 8,402 percent in the five years after the act came into force. The number of RTI queries with the Prime Minister's Office (PMO) rose from 48 in 2005 – when the act came into force – to over 4,000 applications in 2010. The PMO has received a total of 13,216 applications since October 2005; the recently proposed Lokpal anti-corruption bill attracted the most queries (*India Today* 2011).

There has been a spectacular increase in teledensity. At the end of September 2009, it was 43.50 per hundred people, with rural teledensity of 18.46 and urban teledensity of 102.79 per hundred people (World Bank 2010). The high rate of increase in teledensity has been mainly due to very high increase in telephone connections in the urban centers of most states. The same data source reveals that there has been a sharp increase in the number of internet subscribers: from 0.21 million in 1999 to 13.54 million in 2009. (World Bank 2010) However, compared to global level aggregates, the level of both telephone and internet subscriptions in India is much lower.

Equitable growth across all sectors of the country is a requisite for inclusive development. In the case of India, there is a persistent gap between rural and urban areas in almost every aspect of development. Since education is one of the crucial indicators of development, it is reasonable to consider the urban-rural differential in terms of literacy rates. Although the gap between the literacy rates in rural and urban areas is enormous, in recent years it has, thankfully, been narrowing (see Figure 3).

FIGURE 3: Trend in literacy rates in India in rural and urban areas




Source: Census of India 1981, 1991 & 2001

However, as is the case with any development indicator, this gap is not only rural-urban, but also persists between various social sectors of the country. Life expectancy at birth, a summary measure of health, is the most popular and widely used indicator. It represents the index of health in the human development index. Although on average, India's life expectancy was 65.5 years at birth in 2005–06, according to the database of the *National Family Health Survey* (2005–06), there are marked differences among various social groups. In 2005–06, the estimated life expectancy at birth was 60 years among scheduled castes, 65 years among scheduled tribes, 66 years among other backward castes and 68 years among others (IIPS 2007).

The efficiency and the functioning of judicial institutions play a crucial role in maintaining social sustainability. An efficiently functioning judicial system will ensure safe community life and promote human values important for social sustainability. The number of cases solved in relation to the total number of cases reported is an indication of the level of justice in a country.

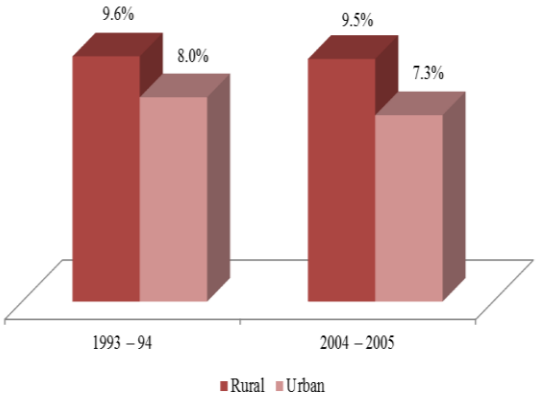
In response to one (RTI) query submitted in 2007, it was recently revealed that there are about 30 million cases pending in all the courts of the country, of which roughly three million are pending in the 21 High Courts and as many as 26.3 million in the lower courts. Out of the total number of crimes reported in 2009, the rate of conviction is lowest in the case of crimes against women, followed by crimes against Scheduled Castes and Tribes (Government of India 2009a). This shows that the judicial system functions very slowly and is incapable of giving speedy justice to victims, especially those among the vulnerable segments of the population.

Despite the fact that since independence the Indian Constitution has not only granted equality to women, including universal adult franchise, but also empowers the state to adopt measures of positive discrimination to favor women, the percentage share of women parliamentarians declined from 9.7 per cent in 1991 to 9.1 per cent in 2007 (Government of India 2009b). Following the 15th General elections held in April-May 2009 the current share stands at 10.3 per cent. Taking into account the elected members of the state legislative assemblies and the members of the national parliament, the share of women members has increased from 3.28 per cent in 1990 to 6.04 per cent in 2002. India's persistent gender gap is undoubtedly an obstacle to development and inclusive growth. The sex ratio at birth is a good indicator of the incidence of the gender gap inherent in a society, as it is a reflection of the bias in favor of a male child. Furthermore, it can be extrapolated to give an idea of future trends in the adult sex ratio of the country. Recently, it has been a matter of much concern because of the decline revealed by the latest census of India. Based on the provisional 2011 census report (Census of India 2011), the child sex ratio in India has dropped to 914 females for 1,000 males, the lowest since independence. Moreover, according to the projections given by the Population Division of United Nations Department of Economic and Social Affairs, the child sex ratio in India is much lower than that at the global level (UNDES 2011).

Although there has been significant improvement in the aggregate level of economic indicators like GDP, PPP, etc., there is still a massive gap between the poorest and the richest segments of the population. India's recent economic development cannot be called sustainable until there is a reasonably equal distribution of wealth among all segments of the population. This will also help to fulfill the objective of the MDG of eradicating poverty. It is very important to monitor this indicator in order to evaluate the government's success in achieving its agenda of inclusive growth. The share of the poorest quintile in total consumption (consumption by the poorest fifth of the population) is a very good measure of that indicator. As seen in Figure 4, in rural areas this share declined from 9.6 per cent in 1993-94 to

9.5 per cent in 2004-05. This decline was greater in urban areas, where the ratio declined from 8 per cent to 7.3 per cent. This decrease in the share of consumption by the poorest quintile could be one of the reasons for growing inequality, particularly in the urban areas.

FIGURE 4: Percentage share of poorest quintile in national consumption in India




Source: NSSO 1997, 2007

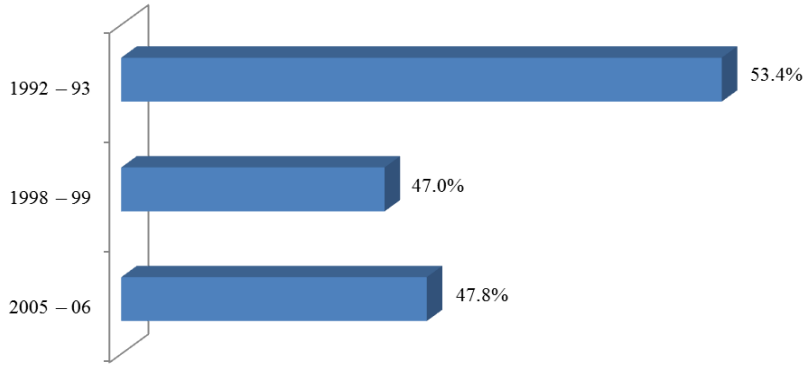
**D. Population**

Three central problems covered in the move towards sustainability are health and nutrition, public infrastructure and governance. The level of health and nutrition of the population has an overall impact on the sustainable development of a country. The MDGs have set a target for India to reduce the maternal mortality ratio (MMR) to three quarters of its present level between 1990 and 2015. Incidence of death among women in the reproductive age group 15-49 due to pregnancy related causes as measured by MMR fell rapidly between 2003 and 2006, from 301 per 100,000 live births in 2001-2003 to 254 per 100,000 live births in 2004-2006, based on sample registration system data. Statistics provided by the UN Population Division show that the indicator of maternal mortality in India has improved in recent years. Statistics, being merely estimates, do not always depict the broader situation (UNDESA 2011). The all-India trend of the proportion of (severely and moderately) underweight children below three years of age shows India is making only slow progress in eliminating the effects of malnourishment. A large proportion of underweight children in the world are

Indian. According to recent National Family Health Survey (NFHS) data, it has even increased marginally, inviting a great deal of concern (Figure 5).

The condition of the physical infrastructure is the primary basis for the classification of slum and non-slum areas. It is a good indicator for the level of public infrastructure availability in a country. According to UN estimates, India is home to about 15 per cent of all urban slum dwellers in developing

FIGURE 5: Trend in the percentage of moderately/severely underweight children (under 5 years of age) in India




Source: IIPS 2007

countries across the world, about 109.5 million people as of 2007 (UN-HABITAT 2012). The expansion of India's slums is partly due to the rise in India's total population, which increased from 683 million in 1981 to 846 million in 1991, 1.03 billion in 2001 and an enormous 1.21 billion in 2011. According to an estimate of the Committee on Slum Statistics/Census created by the Government of India, India's slum population of 75.26 million in 2001 was projected to have grown to 93.06 million in 2011 (Government of India 2010). The expansion of slums has been exacerbated by the exodus of rural peasants from the countryside seeking manual labor in India's cities.

As India continues to develop its infrastructure and compete economically with the West, it is important to achieve significant improvements in the lives of slum dwellers quickly, especially in terms of secure tenure and other community facilities. Road density is the ratio of the length of the country's total road network to the country's land area. The road network includes all roads in the country: motorways, highways, main or national roads, secondary or regional roads and other urban and rural roads. This indicator is very helpful in understanding a country's infrastructural devel-

opment. As the data suggest, India has experienced a noticeable increase in road density over the past 20 years. This is a positive indicator of economic development, as it shows the level of connectivity between the local economy and the national and global economies.

Transparency is one of the most important aspects for the efficient functioning of any system, especially in a democracy. At present, India is plagued by massive corruption scandals unprecedented in the history of the country. Ordinary citizens in India pay bribes totaling $4 billion a year, and about 62 per cent of citizens polled in the *India Corruption Study 2007* had had the experience of paying a bribe or "using a contact" to get a job done in a public office (Center for Media Studies 2008). The report also says that paying bribes has become a way of life in India. The study done by Transparency International in 2009 reported that in private-sector corruption India ranks 85 out of the total 185 countries. India is one of the few countries – others are Indonesia, Morocco and Egypt – where more than 60 per cent of the business executives in the survey reported having experienced pressure to pay a bribe from various key institutions (Transparency International 2009). The high incidence of corruption has a direct negative impact on the development of the country, most clearly on economic growth. Implementation of an effective anti-corruption bill is perhaps India's most urgent need to achieve sustainable development.

## 6. 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 has enough for everyone's need, but not enough for 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 and concepts – does contribute to a convergence of solutions and problems, there is also a country-specific explanation for the constraints 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 the economic and social components there are significant domestic and foreign considerations, security issues and religious aspects as well. It is striking to

note that the government of India has established and continues to develop many differentiated legislative efforts. Examples include equal opportunity laws for the various groups in 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 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 also be viewed as relatively weak. It is particularly evident that at the lower levels of government and the civil service 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 face several fundamental obstacles.

It has been observed that the social and political heterogeneity in India exerts strong pressure on the political actors to seek compromise with their competitors. Otherwise, they run the risk of political insignificance or even their own downfall (Jürgenmeyer 2009: 85). It is fair to expect that at least some percentage of India's new middle class, along with an increasingly powerful civic society, will raise the level of awareness of sustainable development, and the respective demands on politicians will be met with growing attentiveness in the future.

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