7.1 IMPACT OF POPULATION GROWTH, HEALTH AND ENVIRONMENT:

7.1.1 An issue which is routinely overlooked is that of the role of sustainable development in economic growth. Neglecting the country’s natural debt impacts unfavourably on society’s ability to maintain equitable and healthy rates of growth. This despite the fact that our rivers have been polluted to an extent where they are now unable to sustain any form of aquatic life and their waters unfit for consumption by human beings and even animals.

7.1.2 The air in all our cities is polluted far beyond permissible limits, and the area under forest cover which the National Forest Policy 1988 stipulated should expand to one third of the total land area in the country is barely half of that.

7.1.3 Environmental quality is not a matter of sentiment. It is an economic imperative, particularly in a country where a majority of the population depends for its livelihood on services provided by natural resources and the environment. India is losing over 10 per cent of its GDP annually on account of environmental costs, according to a major study carried out by Tata Energy Research Institute (TERI) called GREEN India 2047. Between
11 to 26 per cent of the country’s agricultural output is being lost on account of soil degradation.

7.1.4 While regulation and control have a place in correcting the damage that has taken place cumulatively to our natural resource wealth, the most effective and efficient solutions will have to come from the use of fiscal instruments. Today, in a large number of developed as well as developing countries there is a shift away from command and control methods to the use of suitably designed fiscal instruments that lead to environmentally desirable results.

7.1.5 The 1998-99 Annual Economic Survey included a chapter Promoting Sustainable Development: Challenges for Economic Policy which marked a refreshing departure from past practice, and gave those who are alarmed by the long-term unsustainable structure of growth in India the hope that finally the government was confronting grim reality. But this single token of enlightenment in development policy appears to have been abandoned for the exclusive coverage of the more conventional topics that governments are more comfortable dealing with.

7.1.6 GNP is accepted as a country’s annual measure of economic output and welfare, but it cannot be the sole indicator of economic health. Enlightened governments today commission or carry out assessments based on what has come to be known as natural resource accounting, which essentially includes changes in the natural resource endowment of a society. For instance, cutting down forests for market use of timber would add corresponding value to GNP, but nowhere would we account for the depletion of the natural resource wealth thus occurring. In essence, every time we produce goods or services by depleting natural resources we are
borrowing the wealth of our children and accounting for it as riches created today.

7.1.7 A non-government think tank in the US called Redefining Progress carries out a regular assessment of distortions of this nature inherent in the measures of economic progress used in that country and computes what it labels as the Genuine Progress Indicator (GPI). The measures it incorporates in computing the GPI include components such as cost of household pollution abatement, cost of air and water pollution, loss of wetlands and farmlands, loss of old growth forests and even the social cost of the widening gap between rich and poor. While the last of these costs would involve some value judgement, the others are based on standard estimation techniques. India’s own GPI would be at least 10 per cent lower than the estimates of GNP computed conventionally, in fact, probably much worse.

7.1.8 What are the measures that the budget should include to arrest unsustainable production and consumption? First, prices can be influenced by taxation, to signal to the consumer and the producer the true cost of using the environment and natural resources. An efficient refrigerator, for instance, as also an efficient automobile, must carry lower taxes than one that is inefficient. This would require an elaborate system of testing and labelling of these durables. A scheme to bring this about should be initiated this year. A little known fact is that in the US the efficiency gains in household devices over the last three decades have saved more energy than all the power produced in nuclear plants in that country.

7.1.9 A second area a suitable subsidy on solar lanterns, which are now being manufactured commercially in the country would provide a pollution-
free lighting technology for rural homes, deprive undesirable elements gains from adulteration and not cause the government any loss of revenue.

7.1.10 There is also a strong case for much higher allocations for programmes to expand the country’s natural resource endowment. Investing in forests, sewage treatment or in air quality improvements results in rates of return generally much higher than from investments in physical capital for industrial production. However, it is essential that environmental improvement projects are implemented efficiently to produce targeted results. This can only happen if there is a much larger involvement of civil society in setting environmental goals and implementing and monitoring programmes with transparency.

7.1.11 It would be heartening if budget makes a refreshing departure in addressing the serious challenge of sustainable development facing Indian society.

7.1.12 Industrialisation is important in the achievement of sustainable development for two reasons: first, as part of the development process and second, as a threat to the health of people living near industrial plants. Nick Robins and Alex Trisoglio draw attention to these positive and negative aspects of industrialisation, noting that both in high rates of resource consumption and in creation of pollution, much of manufacturing industry is unsustainable. They call for an eco-industrial revolution in both the North and South. They also discuss the obstacles to achieving sustainable industrial development: the traditional view of environment as a “free good”,

(Ref: Article published by Mr. R. K. Pachauri, Director General, TERI and an economist, in Times of India dt. 7.2.2002)
the pressure of competition, misdirected government policies, overestimates of the costs of prevention, financial short termism, the weak environmental capacity of small businesses, institutional weaknesses, conservation, linear rather than circular approaches and closed decision making processes. They then examine the changes necessary to the achievement of the eco-industrial revolution.

Adv. Indira Jaising and C Sathyamala review the Bhopal disaster in which thousands of people were killed and several million permanently disabled. They identify a number of failures in the legal and medical responses to the event. As David Weir shows, such accidents are likely to recur, particularly in the Third World where many hazardous industries are now located and to which toxic and hazardous waste are exported from “environmentally sensitive” developed countries. Matthias Koch and Michael Grubb summarise the UNCED Agenda 21 recommendations for the management of toxic chemicals and hazardous wastes.

7.2 THE NEED FOR AN ECO-INDUSTRIAL REVOLUTION:
7.2.1 In the debate on how to achieve sustainable development, industry plays a paradoxical role. On the one hand, it is one of the major productive and wealth-creating sectors of society, contributing on average one-third of measured national income. However, industry is also a major polluter, both directly through its production processes and indirectly through the product it sells. The challenge for companies, governments and the public at large is, how can industry both produce products to meet needs and generate wealth in ways that do not degrade the environment or exacerbate growing global inequality?
7.2.2 Since sustainable development is essentially a global concept, as far as industry is concerned it means the ability of production and consumption patterns to be universalised so that needs are met and environmental integrity guaranteed for the future. However, the dominant industrial model of the North is far from sustainable. In the USA, for example, hazardous waste generation is growing at an annual rate of 7.5 percent, considerably more than the rate of economic growth. Energy and materials consumption levels remain excessive, although some progress towards greater efficiency was made during the 1970s, particularly in Japan. And despite considerable improvements in environmental awareness and, in some cases, performance, industry remains resistant to the restructuring that will be required, for instance, to reduce fossil fuel consumption and phase out toxic substances.

7.2.3 Strategies for sustainable industrial development:

The rapidly changing industrial scenario in India due to the economic liberalisation measures initiated in the New Industrial Policy of 1991, coupled with increasing energy demand and greater awareness of the environment, have created new challenges in managing environmental problems in the Indian industry. With regard to environmental governance, as in most other developing countries, there are many barriers to the implementation of environmental laws and substantial scope for improvement. On the other hand, setting strict national energy and environmental standards by adopting them blindly from the industrialised world can bring production to a halt in many energy-intensive and polluting factories. Therefore, regulatory measures need to be tailored to suit the specific socio-economic fabric of the country so as to minimize the negative effects to a practicable level while moving gradually towards a sustainable
industrial environment. The strategies for sustainable industrial development in India have been classified under the following broad heads.

- Mandatory energy efficiency norms for upcoming process industries
- Development of clean technologies for the small scale industries sector
- Promoting recycling and use of secondary materials
- Effective implementation of environmental laws
- Voluntary agreements for energy efficiency
- Mandatory energy labelling for equipment
- Public procurement policies for energy-efficient products
- Enhanced research, development, and technology demonstration efforts.

7.2.4 Urban Growth as a Problem:

Most governments have identified urban growth as a problem and many have used repressive measures to control it. For instance, in Senegal in 1977 there was a major effort to remove beggars and small traders from the streets of Dakar while in Nigeria in 1983, there was a massive “clean up” of urban traders (Stren, 1989). In Tanzania, in 1983, elaborate administrative machinery was established for the “transfer, training and rehabilitation of unemployed (urban) residents” (Stren, 1989), which led to thousands of arrests in Dar es Salaam. In Manila in 1982, Mrs. Marcos ordered the creation of a special commission “to prevent and control the entry of squatters in Metro Manila” with the powers and the equipment to remove squatter families immediately and drive them to a relocation site (Concerned Citizens for the Urban Poor, 1982).

7.2.5 Other governments have sought to control migration to cities in other ways. For example, an attempt was made in Indonesia in 1970 to control migration to Jakarta. All migrants had to obtain a residence card to be allowed to remain in the city and, to qualify for the card, they had to prove they had a job, accommodation and permission to leave their destination. They also had to make a deposit, equivalent to their return fare. In addition, attempts were made to exclude hawkers and street sellers from certain districts (Drakakis Smith, 1981). In South Africa, one of the various aims of the apartheid system is to control the migration of black citizens by providing the legal basis to deny them the right to live in cities. In certain centrally planned economies, large-scale programmes to force people out of cities and into the countryside have been implemented (Kirkby, 1985).

7.2.6 Such policies usually derive from the mistaken belief that poor people flood into cities attracted by the lure of the bright lights. As late as 1976, a UNESCO Expert Meeting on Urban Problems talked of "the ever increasing migratory movement - in practice beyond control - of families from rural areas attracted to the glitter and fallacious promises of consumer society", with the migrants described as "potential parasites" (Moser and Satterthwaite, 1988). But numerous case studies have shown that most people come to cities because that is where economic opportunities are concentrated or survival is more certain. People's movements to or from cities are logical responses to the pattern of economic opportunities across the nation. Most decisions to move to cities are based on careful, logical and national judgements; many result from information from people in the cities about job opportunities there. Such judgements are more solidly based on an understand of economic change than government programmes that try to control population movements, and migrants are not parasites; indeed, the
prosperity of cities often largely depends on the jobs that they do for very low pay with long hours and very poor working conditions. Thus, government attempts to control city growth by trucking the poor out to the countryside, or to control movement into the city through some form of licence, are simply addressing the effects, not the causes.

7.2.7 Governments might decry the fact that a city is growing rapidly but they rarely ask why - or consider the extent to which their own policies are one of the main causes. Nor do they look at why people are leaving their original homes. In many cases, the migrants are small farmers forced off their lands or agricultural labourers whose livelihood has disappeared because of soil erosion, low crop prices or the increasing concentration of land ownership, with consequent changes in crops and the means of producing them. Many other migrants came from smaller urban centres whose economies stagnate and whose potential for development is stifled by inappropriate government policies. These are causes about which governments could take action, if they wanted to slow migration to cities.

7.2.8 But it is also possible to question whether population growth or the "flood" of migrants is in fact the problem. Most of the Third world's urban centres are not growing very rapidly, and the natural increase in population as children are born to parents already residing in urban areas contributes much more to urban population growth than new people coming into the city.

7.2.9 Many of the cities that have grown most rapidly during the last 20 to 30 years have done so because their booming economy attracted a large number of people. Many others grew rapidly because they were the locations of most new investments and job opportunities within the nation, even though the national economy was not growing rapidly. In theory,
government should have been able to recapture some of the profits from such expanding city economies to pay for infrastructure and services for both the inhabitants and for city businesses. In this way, government could not only tackle the problems but also provide the basis for continuing economic expansion. Of course, there are also many cities that grew rapidly because they became the homes of those fleeing drought, floods or war, or those pushed off the land that had provided their livelihood; rapid city growth was thus not necessarily associated with an expanding city economy. But this should not disguise the fact that many city problems could have been greatly reduced if governments had more effectively drawn resources from expanding economic activities to provide the capital needed for infrastructure and service investments.

7.2.10 Many Western cities grew at rates comparable to most of the Third World’s fast growing large cities, which shows that it is possible for governments to deal with rapid city growth. For example, the population of the Los Angeles - Long Beach urban agglomeration has grown more rapidly than Kolkatta since 1900 and the population of the Tokyo agglomeration has, in recent decades, grown on a scale comparable to that of Mexico City. While there are serious housing problems in both Los Angeles and Tokyo, they do not compare with those in Kolkatta or Mexico City. nor their population growth associated with comparable levels of poverty, malnutrition and disease.

7.2.11 The problems for Third World cities are not the result of rapid population growth itself, but of growth within the context of a legal and institutional structure unable to cope with the needs of the population and the tasks of providing and running city services. Central to this is the weakness of municipal and city government. More recently, problems have
been further compounded by declining public investment capacity, the
giving of low priority to investments in basic services, and inappropriate
models of public intervention. As Otto Koenigsberger commented, “rapid
population growth does not create poverty; it merely makes poverty more
visible” (Koenigsberger, 1976).

7.2.12 There is an evidence in recent years that some governments are
beginning to appreciate the gap between their plans and the reality around
them - perhaps partially as a result of conferences, projects, between
knowledge and closer ties between researchers and community leaders. But
more effective pressure on governments has come directly from community
groups formed by the poor, even if these usually receive neither official
recognition nor representation within government.

7.2.13 Population and Human Development: Sustainable Development
With over a billion people, India is the second most populous country in the
world. Already, it is twice as densely populated as China, and the
population continues to increase by over 15.5 million each year. The
concern is not about the growing numbers alone: nearly half of India’s
population is illiterate, over half the children younger than four years - over
60 million of them - are undernourished or underweight; half of the rural
households and nearly 20% of urban households do not have access to safe
drinking water yet. evidently, huge gaps exist in the path towards
development, and these will need to be addressed at the earliest.

7.2.14 India’s population in 2047:
Over the 50 years spanning the period 1997 to 2047, India’s demographic
profile is expected to alter significantly in several ways. High fertility levels
in the past have resulted in a 68% increase (between 1947 and 1997) in the
population in the age group of 15-49 years. Currently, nearly half of India’s
population is in this reproductive age group that contributes most to population growth. Consequently, there will be large additions to India’s population in the coming decades. The National Population Policy 2000 aims at a stable population by 2045 (Box 1).

7.2.15 **Substantial growth and uneven distribution:**

India’s population is expected to grow by over at an annual CAGR (compounded annual growth rate) of over 1.1%. Whereas the CBR (crude birth rate, i.e. the number of births in a given year divided by the total population in that year), is expected to decline from 25.5% to 13.8%, the CDR (crude death rate, i.e. the number of deaths in a given year divided by the total population in that year), is expected to remain at the current level of 8.6% (Table 1.)

**Table 22 :** Key demographic indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1997</th>
<th>2019</th>
<th>2047</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (million)</td>
<td>954</td>
<td>1271</td>
<td>1569</td>
</tr>
<tr>
<td>Urban Population (million)</td>
<td>276</td>
<td>489</td>
<td>796</td>
</tr>
<tr>
<td>Urban Population (%)</td>
<td>29</td>
<td>39</td>
<td>51</td>
</tr>
<tr>
<td>Rural Population (million)</td>
<td>678</td>
<td>782</td>
<td>773</td>
</tr>
<tr>
<td>Rural Population (%)</td>
<td>71</td>
<td>61</td>
<td>49</td>
</tr>
<tr>
<td>Male Population (%)</td>
<td>52</td>
<td>51</td>
<td>50</td>
</tr>
<tr>
<td>Female Population (%)</td>
<td>48</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>Sex ratio (males per 100 females)</td>
<td>108</td>
<td>103</td>
<td>100</td>
</tr>
<tr>
<td>Composition by age (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-4 years</td>
<td>13</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>5-14 years</td>
<td>25</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>15-49 years</td>
<td>49</td>
<td>54</td>
<td>48</td>
</tr>
</tbody>
</table>
50-64 years | 9 | 13 | 19
65 years and over | 4 | 7 | 13
Total fertility rate | 3.4 | 2.2 | 1.9
Crude birth rate (per 1000) | 25.5 | 19.2 | 13.8
Crude death rate (per 1000) | 8.7 | 6.8 | 8.6


7.3 RAPID URBANISATION:

7.3.1 TERI estimates indicate that in 2047, India’s urban population will grow to 796 million (50% of the total population of 1569 million), from 276 million (29% of the total population) in 1997 (Figure 1). Table 2 shows the UN estimates of likely urbanisation in the developed and the developing countries.

Chart : Figure 1 : Growth in rural and urban population (Pg. 37)

Table 23 Urban population (%)

<table>
<thead>
<tr>
<th>Region</th>
<th>1995</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>46</td>
<td>60</td>
</tr>
<tr>
<td>Developed countries</td>
<td>33</td>
<td>75</td>
</tr>
<tr>
<td>Developing countries</td>
<td>57</td>
<td>84</td>
</tr>
</tbody>
</table>


It is expected that India will have over 5000 cities in 2047 (increasing from 3609 cities in 1991). Table 3 shows the distribution of urban population across different categories of cities by their population.
Table 24: Distribution of Urban Population

<table>
<thead>
<tr>
<th>Population</th>
<th>1991@</th>
<th>2019#</th>
<th>2047#</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of cities</td>
<td>Population (million)</td>
<td>No. of Cities</td>
</tr>
<tr>
<td>&gt; 1 million</td>
<td>23</td>
<td>71</td>
<td>52</td>
</tr>
<tr>
<td>100 000 - 1 million</td>
<td>273</td>
<td>68</td>
<td>455</td>
</tr>
<tr>
<td>50 000 - 100 000</td>
<td>341</td>
<td>23</td>
<td>612</td>
</tr>
<tr>
<td>5000 - 50 000</td>
<td>2972</td>
<td>51</td>
<td>3187</td>
</tr>
<tr>
<td>Total</td>
<td>3609</td>
<td>213</td>
<td>4306</td>
</tr>
</tbody>
</table>

Sources: Census 1991, TERI estimates based on UN 1998

7.3.2 Mega Cities (over 10 million people):

Currently, only three Indian cities - Mumbai, Calcutta and Delhi are in the category of mega cities, i.e. cities with population exceeding 10 million. By 2047, six more, namely Hyderabad, chennai, Bangalore, Ahmedabad, Pune and Lucknow, will be added to this category. These cities will house nearly a fourth of the total urban population of the country. Given that most of these cities are already bursting at the seams, the situation is certainly a cause for concern. TERI's estimates of urbanisation indicate that Mumbai, with over 10 million people, will continue to be the most populated city in India, whereas Delhi, with over 5 million people, will be at the second place. Calcutta is expected to move from the second to the third spot, with a little less than 10 million people. These cities are likely to be characterised by the phenomenon of urban sprawl as the suburban centres get integrated into the main city. For instance, Delhi and its suburban centres will be integrated into a single city, namely the National Capital Region. Likewise, Mumbai and its suburbs, including New Mumbai, would be integrated into Greater Mumbai.
7.3.3 Health and mortality:
In India, 2.2 million infants die every year - most of these deaths are avoidable. The country’s average infant mortality rate is 80 per 1000 live births. Also, 53% of the children below the age of four - 60 million of them - are undernourished or underweight. Infant mortality rates are as high as 111 in Madhya Pradesh and 120 in Orissa. Almost 15% of India’s population does not have access to health services and there is only one primary health centre for every 30,000 people. Poor health leading to morbidity and undernourishment can be serious barriers to productive work and economic performance. Besides, ‘one of the most important factors in fertility decline is mortality itself. It is not babies that parents want, so the argument runs, but surviving offspring’ (Cassen 1981).

7.3.4 Coping with the future:
The urban landscape in 2047 will be dominated by the nine mega cities (Mumbai, Calcutta, Delhi, Hyderabad, Chennai, Bangalore, Ahmedabad, Pune and Lucknow) and other cities, each with population of over a million, which will together house half of India’s urban population. The dimensions of urban management in large as well as other cities (with population less than a million) will be similar: water supply, air pollution control, solid waste management (dealt with in the chapters on municipal services and air) and urban transport planning with focus on public transport (dealt with in the chapter on transport) as well as land use regulation, credit for low income housing, and more secure land tenures.
7.3.5 Rural - urban migration:
Given the very close administrative, financial and organisational links of public expenditure and policies with the organised sector, it is expected that the direct impact of most governmental policies to be immediately felt by the urban organised sector, with second-order effects on the urban informal sector and still weaker effects on the rural population (Tendulkar 1998). There is, therefore, a need for direct interventions to enhance opportunities for livelihood in rural areas. This may be made possible through the development of agro-industries and self-employment scheme. Participation of the local population in establishing and managing village community services also offers a large opportunity for supplementary income generation as well as improved quality of life.

7.3.6 Human Development Management:
Education, knowledge, literacy and awareness:
India does have a large body of people with higher education; many of them have demonstrated their proficiency both within India and internationally and this is a good sign for the Indian economy. However, effective implementation of the strategies recommended in the following chapters calls for near total adult literacy, and the alternative scenarios are based on the premise that this would be achieved by 2019. Social opportunities offered by market-based economic growth are severely limited in a society in which very large numbers (even majorities in large parts of the country) cannot read, write or count, cannot follow printed or handwritten instructions, cannot operate comfortably in a modern industry, and so on (Dreze and Sen 1996).
It goes without saying that there have to be more schools and certainly much better schools (better in terms of facilities as well as teaching staff, pedagogy, and methodology).

There is also a need to emphasize vocational training and skills development to open up employment opportunities to more people.

Development of good, user-friendly multimedia kits (with local variants to suit different languages and cultures) could help overcome several of the problems, particularly those relating to good teaching staff. Online courses using the Internet help to bridge the distance (geographical barriers) between good teachers and eager-to-learn students. Videoconferencing and other collaborative working tools can be used to share information and knowledge. The television and cable network could also be used for information dissemination and knowledge building. Apart from the basic ability to write, there is also a need to focus on informal training, interactive counselling, and workshops on such key issues as environmental concerns and health.

7.3.7 Health and gender issues:

Educational campaigns need to clearly target the female population for two reasons: first because, on an average, women lag behind men in this area and second, because women have a more important role in shaping family decisions on such issues as family size, household expenditure, and health and nutrition for the family, especially children.

To facilitate enhanced participation of women in the labour force, there is a need to evolve special skills development programmes for them and to set up creches and childcare centres (which could tie up with either schools or work centres).
Other important health and security aspects could be tackled through:

- Promoting delayed marriages, perhaps through incentives (since regulation has not really worked)
- Interventions such as immunization and improved nutrition to ensure child survival.
- More and better equipped health centres and mobile clinics
- Incentives for good trained medical staff to work in rural areas.

Though promotion of child health, literacy (particularly among women), and participation of women in workforce have been found to be correlated with reduced fertility, the importance of family planning programmes should not be lost sight of (Dreze and Sen 1996).

To cope up with the large increase in the population aged 65 years and above, there will be a need for monetary security systems, special housing, light or part-time employment packages, and health care schemes for senior citizens.

This chapter has highlighted the need to foster human development through education, health, community services, employment generation, and poverty alleviation. All these have a role in generating rapid and shared economic growth (in addition to their direct intrinsic importance). However, these developmental schemes and strategies may not by themselves be effective in raising economic performance. Most important of all, there must be a political will and commitment to make the strategies work.

7.3.8 Environmental governance:

The agenda for sustainable development places enormous responsibilities on all citizens, both from the government and non-government sectors, to ensure the rational use of natural resources as well as their protection and regeneration. The complexity of these tasks is magnified by gross
institutional failures in the management of natural resources over the last fifty years. There was a failure to recognise the environmental implications of development policies and programmes, compounded by systematic moves to establish the monopoly of government over the control of resources. A multitude of existing systems of rational resource use practised by local communities were either diluted or eliminated. The alternatives provided failed to recognise the imperatives of public participation. Government control was heavily centralised, with only partial devolution of power to State Governments and minimal empowerment of the district, city, and village administration. Regional and local variations in resource endowment, priorities and opportunities failed to find a place in public policy and programmes. The bureaucracy took charge of land, water and biological resources, for which purpose large, unwieldy organisations were created. Yet, despite enjoying substantive authority, these bodies were unable to ensure compliance with legal requirements, many of which were inherited from the time of the colonial rule and did not reflect the changed concerns of the new nation state.

Sustainable development in India can be achieved by improvements in governmental and non-governmental organisational structure and function. Emphasis must be laid not only on who governs but also on how decisions are made and implemented. Even before taking up the issue of environmental governance, it is necessary to ensure that there exists a legal system that delineates and enforces property rights over environmental resources. In some cases, the creation of a legal structure must begin with a focus on defining property rights. Other cases require setting up mechanisms to ensure that these rights can be
restored when they have been violated or to promote the efficient purchase and sale of these rights.

### 7.3.9 Short and medium term strategy:

The Kyoto Protocol provides resources for sustainable development in the developing countries under the Clean Development Mechanism. The country strategy on Clean Development Mechanism has to ensure that

- these resources are invested in appropriate projects, i.e. projects that meet national priorities and
- the country is able to attract resources under the Clean development Mechanism by instituting transparent guidelines and procedures.

In harnessing resources available under Clean Development Mechanism, it has to be ensured that national priorities are not neglected. Financial aspects and business opportunities usually get the maximum attention of delegates from the industrialised countries and corporations whereas aspects of sustainable development are often neglected. India should clearly define how CDM projects can assist in meeting her sustainable development priorities. This requires that the appropriate ministries and departments (e.g. Ministry of Environment and Forests, Ministry of Non-conventional Energy Sources, Ministry of Power, Ministry of coal) identify the technologies that require additional support and can be obtained under the CDM. It is also necessary to ensure that these technologies meet the national developmental goals.
7.4 SOCIAL DEVELOPMENT:

7.4.1 Social Development is an approach aiming at promoting the well-being of people (Midgley, 1995: 13). Social development focuses on communities, societies and wider social processes and structures (see Boyle, 1997: 3). It therefore aims at enhancing the well-being of communities or societies as a whole.

The most distinctive feature of social development however is the fact that it is based on the idea that social and economic issues should be linked in development initiatives. Both aspects are hence integral parts of a dynamic process of development to an extent that the one without the other is basically a meaningless exercise. The characteristics of social development can therefore be summarised as:

- the integration of social and economic development issues in order to improve human well-being
- an inter-disciplinary focus;
- accepts the idea of development as a process
- the process of change is progressive in nature
- the process of social development is interventionist
- social development goals are approached by means of various strategies which are supported by different beliefs or ideologies, which are approached on the basis of a pragmatic viewpoint through which a synthesis of different viewpoints are attempted;
- it is inclusive or universalistic in scope by including the community or population as a whole; and
- it aims at promoting the well-being of people.
In order to facilitate the implementation of these ideas towards social
development, it is thus evident that an explicit move away from the
economic deterministic and also statistic approach is suggested. It is
recognised that development does not take place in a vacuum and strategies
towards it do not occur spontaneously. It is rather implemented by actual
people within specific organisational contexts.
To be able to create a strategy for planning and implementing development,
it is therefore necessary to consider the realities, impact and needs of the
situation in which it takes place. This is imperative because development
should impact on, but also be impacted upon by the local situation. On this
basis it is, therefore, argued that the role of the state and external role-
players would be planned according to the reality in which it is active. This
implies a dynamic relationship between community and state, as well as
external role-players. The position and role of the state may therefore be
stronger in absolute low developed situations, while it will become less
direct and more facilitating in more developed environments. The situation
being determined by an interactive process between state and community.
The fundamental principle is however that the components of the target
population and this is normally communities in society should be considered
as basis for such development. It is, therefore, necessary to empower
communities to take responsibility for their own future and through this
create a basis for national development.

7.4.2 Sustainable Development: Some Issues:
The World Commission on Environment and Development (the Brundtland
Commission) defined sustainable development as “development that meets
the needs of the present without compromising the ability of future
generations to meet their own needs”. The wider definition given by the
Brundtland Commission is worth quoting: “Humanity has the ability to make development sustainable - to ensure that it meets the needs of the present without compromising the ability of future generations to meet their needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organisation can be managed and improved to make way for a new era of economic growth. In the end, sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with future as well as present needs.” (Our Common Future, World Commission on Environment and Development, 1987).

7.4.3 At the Earth Summit in 1992, nations extended the above definition and adopted a set of principles to guide future development. The Rio Declaration on Environment and Development defines the rights of people to development, and their responsibilities to safeguard the common environment.

For public policy purposes, there are several core concepts that underpin sustainable development. First, economic growth is the basic condition for sustainable development, as it increases income and wealth to make it possible to improve our well-being. Quality of life and well-being are however determined not only by income and wealth but also by people’s health, their level of education, cultural diversity, environmental quality and the beauty of nature.
Second, economic development of a sustainable nature must embody a commitment to equity. Sustainable development must ensure fairer distribution of the fruits of development. Such fairer distribution must lead to inter-temporal (or intergenerational), international (or interspatial), inter-class equity and sexual equality. In other words, a more equitable distribution of the costs and benefits of development must be achieved between generations, between the poor and the affluent and among nations.

Third and most importantly, there is the need for decision-making at an international level for the protection of our common environment. Sustainable development is therefore inherently a transnational concept. For example, global efforts are needed in three key areas to (a) protect the ‘O’ zone layer; (b) reduce greenhouse gas emissions; and (c) conserve biodiversity.

In 1987, recognising the human health hazard produced by ‘O’ zone depletion, 139 countries signed the Montreal Protocol on ‘O’ zone Depleting Substances, which established a timetable for the reduction and elimination of specific ‘O’ zone depleting substances. India, Bangladesh and Sri Lanka are all signatories to the Montreal Protocol. Australia is also a signatory to the Protocol, and has made significant progress in phasing out the production and use of ‘O’zone depleting substances.

However, Australia’s record is not so good in voluntarily meeting the target of greenhouse gas emissions by the year 2000. Over 150 nations signed the Climate change Convention in June 1992 and agreed that developed countries must take immediate actions to reduce emission of greenhouse gases to 1990 levels by the end of 2005.

Again, development is sustainable if it maintains bio-diversity. Some human activity leads to severe losses of bio-diversity and to a simplification
of environment and ecology that evolved over millions of years. The United Nations Convention on Biological Diversity in June 1992 was the global response to conserve biological and ecological diversity.

The acceptance of sustainable development as a basic aim for the world may also be explained by the perception, from the late 1960s, that the world is facing a mega crisis, including crises of development, environment, health and security.
PART III

CHAPTER 8

THE POLITICAL, SOCIAL, ECONOMIC, AND CULTURAL DIMENSIONS HAVE THEIR ROOTS IN INFLUENCING THE SUSTAINABLE DEVELOPMENT

Analysis and Comments of Experts

8.1 INTRODUCTION:

In the Sub-Continent of South Asian countries of (the areas where mass poverty in the world is concentrated geographically) poverty by any reasonable measurement is so pervasive that the policies of alleviation of poverty and social status encompass practically the whole range of development policies. Most policies that affect the national economy significantly also have substantial implications for the Sustainable Development. The efficiency-equity trade-off which is at the heart of much of mainstream policy economics is thus central to the policy debates on Sustainable Development. A society may well consider the objective of redistribution in favour of the poor as a sufficiently worthwhile goal to warrant some sacrifice in terms of efficiency. But if such a redistribution comes at a substantial cost in terms of misallocated resources and aggregate income losses, it may not be politically or economically sustainable; in fact it can be a much more serious issue in the economic policy of poor countries (both because the poor form a much larger proportion of the population and
because one can afford such losses less at low levels of income) than even
the controversies that rage around the efficiency impact of the welfare
budget in rich countries.

Poverty is not only a condition that prevents underprivileged individuals and
families from satisfying their basic needs or participating fully in society and
ultimately Sustainable Development. It is a socio-economic phenomenon,
which on a large scale has wide-ranging effects on society as a whole; the
growth and composition of the population; its health, level of culture;
patterns of settlement and migration; economic development; political
stability; and environmental issues.

After Independence the policy-making elite in India launched a project of
economic development with a heavy involvement of the state and the
democratic policy. There were many successes and at least as many failures
of this developmental project since the first three decades of the 1950s, 60s
and the 70s. In terms of economic success, this particular project led to the
foundation of a complex industrial economy, some parts of which are highly
inefficient and not very cost-effective.

Partly in response to this rising frustration, the elite in India over the last two
decades launched a process of economic reform with a view to unleash the
entrepreneurial forces from the shackles of controls and regulations hoping
that some of the ensuing economic growth would trickle down to the
clamouring masses. The changes introduced, particularly since the early
1990s, were dramatic by past standards in India but quite unremarkable by
the standards of many other developing countries, particularly in East Asia
and Latin America.
Reform would have been more popular if it was oriented to aspects of human development (education, health, child nutrition, drinking water, women’s welfare and autonomy, etc.) and down to the Local Self Government. Reformers are usually preoccupied with problems of the foreign trade regime, fiscal deficits and the constraints on industrial investments in the factory sector. They believe that once these are handled right, trickle-down will take care of the issues that concern the masses. Among other things, the reformers have paid little attention to the crucial problems of governance in matters of achieving human development, which will be increasingly there even if trade, fiscal and industrial policy reforms were successful. If the administrative mechanism of the delivery of public services in the area of human development remains seriously deficient, as it is today in most states, the chances of constructing a minimum social safety net are low, and without such a safety net any large scale programme of economic reform will remain politically unsustainable, not surprisingly in a country where the lives of an overwhelming majority of the people are brutalised by the lack of economic security.

The all-pervasiveness of the Local Self Government is not all that the modernizing elite’s doing. The community institutions have been in decay for quite some time, at least partly due to internal reasons. The high degree of social inequality and (caste-class or gender-based) oppression within the local communities made their continuous consolidation difficult, particularly as the expansion of the market nexus increased opportunities for ‘exit’ and the democratic process slowly increased those for ‘voice’.

At the lower rungs of the bureaucracy the petty officials and guardians of law and order, of course, interpret the modernizing nation-state’s writ in their own way and get involved in local community or class conflicts as
partisans. The top leadership of the state has limited control or effective authority over their actual operations. Any process of sustained economic reform and investment requires a framework of long-term policy to which the government can commit itself credibly. But the political process in India seems to be moving in the opposite direction. While becoming more democratic and inclusive in terms of incorporating newer and hitherto subordinate groups, it is eroding most of the structures of institutional insulation of long-run economic management decisions against the wheeling and dealing of day-to-day politics. There are very few assurances that commitments made by a government (or a leader) will be kept by successive ones, or even by itself under pressure. A political party that introduces some reforms is quick to oppose them when it is no longer in power.

Another anomaly is that while the political power of the regional governments is increasing, at the same time their fiscal dependence on the Centre is also increasing. It would be difficult to deny that in this country's political thinking, the left-right distinction has increasingly become less scientifically valid classificatory tool of politico-historical analysis and more a matter of attaching labels, of branding persons or parties on considerations which are of the nature of dogmas. The idea of left and right, of progress and reaction, has a history of more than two hundred years and if one were to apply criteria derived from the tradition of thought of 'Scientific Socialism' to present-day India, one would perhaps classify as leftist economic policies or political programmes (or persons or parties working for them) that aim at a reorganisation of the society so as to lessen the political power of an finally eliminate the classes that are at present dominating the society and deriving
maximum advantage from its present organisation and to increase the political power of the exploited toiling masses (of which the organised industrial and white-collar working classes, no doubt constitute an important segment but which consist predominantly of poor peasants and landless labourers). If one were thinking, each time one made the left-right distinct, of these two opposed class interest groups, keeping in full view the internal contradictions that exist unavoidably within the two groups, one would probably make the distinction meaningfully, but much too often that is not, how it is done.

India’s relative fiscal conservatism could also be attributed to the fact that India is a democracy, inflation is unpopular, and elections have to be won. But one might also plausibly expect democracy to be inflation-prone since it gives voice to many competing groups and so tempts governments to throw money at them to keep them quiet. Thus democracy is an incomplete explanation of India’s fiscal prudence and low inflation. The missing element lies, as already suggested, with the inherited character of the bureaucracy, and its traditions of guardianship, as well as with the quiescence of India’s first generation of politicians.

From many points of view India is a heterogeneous country. Its large space includes very variable climatic conditions, and contains many ethnic and religious groups speaking a multitude of languages. The role of government and its forms are complicated.

Time and again, decisions taken in individual cases have shown the clout of mighty lobbies in the corridors of power in Delhi. This has created public misgivings and raised uneasy questions about the continuance of crony capitalism even in the regime of economic liberalisation. Equally important is the growing public perception that the so called case-by-case decision-
making approach adopted in most cases is in reality a suitcase-by-suitcase approach.
The close nexus between powerful businessmen and ministers, including prime ministers, has shaken the faith of the common man and demoralised and subverted the system. The links of the businessmen with the high and mighty in the government is no longer a secret. They have been a force to reckon with in every government at the centre since the days of Indira Gandhi and have subjugated even those at the highest levels of bureaucracy and the political elite. Senior bureaucrats are openly classified into special categories. A few who refused to fall in line have had to pay a heavy price which taught a lesson to several others who quickly learned to crawl when asked to bend. It was as if the whole system had been mortgaged to them.
Kamal Nath, former central minister for forests and environment, went to the extent of diverting the flow of a river in Himachal Pradesh for the sake of his holiday resort. This must be a unique case of its kind deserving a mention in the Guinness Book of Records !.

8.2 CODE OF CONDUCT FOR LAW MAKER:
At present, there is no code of conduct for legislators, Corporators. There is however, an increasing demand that all responsible sections of society must lay down for themselves a code of conduct by which they can be judged. MLAs, MPs and Corporation themselves are up front in pressing this point when it concerns others but not when it comes to laying down a code for themselves. The then speaker of the Lok Sabha, Shivraj Patil, had prepared a draft of such a code of conduct way back in 1992 and forwarded it to the vice chairman of the Rajya Sabha and the minister for parliamentary affairs. There has been no follow-up action on this. The need for such a code was accepted at the special session of parliament held to commemorate the
golden jubilee of India’s Independence in August 1997. The conference of chief whips of all political parties held in Srinagar in August 1997 had passed a unanimous resolution in favour of adopting such a code. Parliament was to take a very early initiative to adopt a code of conduct and ethics for its members and appoint an Ombudsman for the purpose. The committee of ethics of the thirteenth Lok Sabha presented its first report on Ethical Norms and Code of Conduct to the speaker on 31 August 2001. Though disappointing and out-of-step with the world view on these matters, it was laid on the table of the House on 22 November 2001. It is imperative that early decisions are taken thereon. This will enable the state legislatures to follow suit. Subsequently it is expected that this will also be emulated by other elected bodies such as municipal corporations, municipal councils, and zilla parishads.

**Code of Conduct for Ministers:**

The central government had formulated a code of conduct for ministers of both union and state governments and placed it on the table of parliament in 1967. The modified document has not so far been placed before parliament. It is imperative that the code of conduct is revised and brought up to date in the light of widespread concerns regarding the urgent need for cleaning up public life. Ministers must set an example of highest integrity, honesty and rectitude. It is essential that the code be published so that people can assess the conduct of ministers on this basis.

However while reviewing it does not, of course, really matter whether political, social, and cultural factors influences on economic matters are counted inside or outside the discipline of economics, but it can be tremendously important not to lose sight of these influences in analysing
many profoundly important economic problem affecting the Sustainable Development.

The state is, to a great extent, a direct instrument for providing entitlements through such mechanisms as public distribution of food and health care, the generation of public employment, the provision of relief in distress situations, the offer of subsidies on particular productive inputs and consumption goods. Sobhan provides a broad-ranging analysis of the political forces that determine the public provision of these entitlements, thereby supplementing the usual concentration in the literature on entitlement analysis in the market economy.

The analysis can be extended in other directions as well. The provisions made by the state respond not only to pressures of vested interests, but also to general political pressures. There is some evidence that organised political opposition can be quite effective in influencing state policy even in rather authoritarian states. For example, hard-to-suppress opposition groups may have made quite a substantial contribution to the populist (and, to some extent, welfare-oriented) policies.

The meaning of the expression ‘political economy’ is not altogether unambiguous. To some, it simply means economics. It is indeed the old name of the discipline, common in the nineteenth century, and now rather archaic. To others, political economy is economics seen in a perspective that is a great deal broader than is common in the mainstream of the modern tradition. In this view, the influences of political and social institutions and ideas are taken to be particularly important for economic analysis and must not be pushed to the background with some stylized assumptions of heroic simplicity. Political economy thus interpreted cannot but appear to be rather ‘interdisciplinary’ as the disciplines are not standardly viewed.
Even though the two interpretations are quite distinct, there is a clear connection between them in the sense that the dominant tradition of economics is much narrower now than it was in the classical political economy of Adam Smith, Robert Malthus, David Ricardo, Karl Marx, John Stuart Mill, and others. Thus the old and archaic terms for economics as such is also a reminder of the breadth of the earlier tradition of the subject. Many of the analysis of the kind that are now seen as interdisciplinary would have appeared to Smith or Mill or Marx as belonging solidly to the discipline of political economy as a subject.

References:
1. Poverty, Agrarian Structure, Political economy in India – Pranab Bardhan
8.3 Protection of the environment, concerns all of us, since it has direct implication, not only on the deterioration of water; air and soil quality but human health as well. At the UN conference on human environment held in Stockholm in 1972 it was recognised that environment and economic development are closely interlinked. The UN environmental programme UNEP is now dedicated to closing the gap between awareness and action.

8.3.1 Newer relationships are forged amongst scientist and decision makers, industrialists, and environmental activists, so as to achieve a balance between national interest and global good. Over a period of time there has been an increased level of awareness, which has lead to appropriate actions in minimizing further deterioration. WHO expert committee has made repeated recommendation on the importance of protection of environment in protecting human health. This has resulted in changing the focus from economic and developmental issues to health.

8.3.2 POPULATION:
The main curse in deterioration of the environment is explosion of population and their migration to cities for the basic need and over consumption of natural resources. It is estimated that about 60% of the earth's population will live in the urban areas by 2025. More details have been given in Chapter 7.

There has been tremendous pressure, which is increasing every year for absorbing more than 80 million new people in townships and cities. Communications, transport, services, water supplies and health-care; will be under strain resulting in mushrooming of urban slums.
Expensive fuel, scarce clean water and inefficient garbage disposal has lead to a number of epidemic diseases, psychological disorders and violence. Unsanitary and infested living conditions lead to the death of several million adults and children throughout the world.

Pune and Pimpri Chinchwad are not an exception the population / urbanisation has exceptionally grown since Panshet flood resulting into strain on civic amenities.

**8.3.3 INDUSTRIALISATION**

Industries are one of the major pollutants and it is estimated that the oxygen depletion from surface water and 90% of their pollution with toxic substances is linked with industrial waste.

Although some of the waste material are recycled many hazardous waste are dumped in without appropriate treatment and safety.

Apart from pollution of water soil and atmosphere, industries are also responsible for slow poisoning leading to various occupational diseases among the workers and surrounding population.

Disasters like Bhopal and Chernobyl speak of hazardous material handling challenges over and above the long term effect on the environment in general and human health in particular. It is estimated that every year about 2000 new chemicals are added to the existing 100,000 produced commercially.

A concept now known as “environmental audit” is slowly diffusing into the industrial sector. Horizon Environmental Services Pvt Ltd., a Pune based firm is one of the auditors at present which is approved by The Ministry of Environment and Forest, New Delhi which can undertake the environmental Audits.
Finally there has to be a balance between the developments, which are essential without compromising vital environmental and health issues. A concept of community participation, and community management in evolving a mechanism leading to “primary environmental care” is really the need of the time. In achieving this the government, local authorities, community organisations, NGO, universities, and committed individuals will need a cohesive and integrated approach for protecting environment for health.

**Action by Manufacturing Companies at Pune, Pimpri Chinchwad:**

The manufacturing sector, the Pune biggies from Tata Motors to Thermax, BAL to Bharat Forge, Kinetic to Kirloskars all follow stringent eco-friendly engineering practices.

Bajaj Auto follows the “three Rs.” Strategy- Recycle, Reuse, Recovery. For instance, BAL recycles treated effluents inside the factory for gardening, washing and in other manufacturing processes, thus reducing the fresh water consumption.

The company has set up 138 windmills in the last three years at Supa (Ahmednagar) and Vankusavade (Satara) which have a capacity of 65.2 MW, enough to fulfil the power demands at all its three plants, Akurdi, Waluj and Chakan.

Tata Motors, of course, has led from the front by being the first Indian company to introduce vehicles with Euro I and Euro II norms. Besides, it has set up effluent treatment facilities at its Pune plant – the treated water is then conserved in lakes which attract birds from all over the world.

**8.4 Pune Action Plan:**

The Maharashtra Pollution control Board (MPCB) commissioned Pune Action Plan (PAP) after the Supreme Court of India ordered for a
preparation of a scheme with regard to improvement of environment with a special reference to vehicular pollution in cities other than Delhi. Pune appeared as one of the four cities. PAP is taking the necessary action for controlling the air pollution in the city.

As of now they are monitoring the ambient air quality at Jog Centre. University of Pune alongwith Central Pollution Control Board is heading another project. The city air pollution is above limits (80 is the stated limit for the city) and sometimes hovers around 100-110. There are five monitoring stations for collection of data of air pollution. These are not sufficient to give data of the entire city. There is a need at least 4/5 more stations and more manpower”,

This is mainly due to ever increasing vehicular traffic in the city besides other factors. The other 10 to 15 percent of pollution is from other sources and only five per cent is from the industries. There are a total of 3722 industries in the entire Pune district out of which 450 cause air pollution. MPCB acts as co-ordinator for the Pune action Plan but the main players are Regional Transport Office (RTO) who have the authority to control both air and noise pollution by not allocating new registrations, Pune Municipal Corporation (PMC) who should really speed up the road development and infrastructure work. Pune Municipal Transport (PMT) whom it has been suggested for scraping more than 15 year old buses and to introduce Bharat Stage II buses.

The oil companies too play an important role in causing air pollution. These companies use a chemical called Benzene in petrol that causes irritation to the eyes. Two years ago, 3% of this chemical was used; now it has been reduced to one percent. It helps give better emission. Sulphur content in
diesel too has been reduced from 0.5 to 0.05 which helps bring down the pollution level.

**Main features of the Pune action plan:**

- Inverterisation of vehicle pollution
- Introduction of clean-fuelled vehicles like CNG/LPG/Hybrid and Battery etc.
- Introduction of fuel matching Bharat Stage II, III and IV
- Ban on supply of loose 2T oils at petrol pump
- Checking of fuel adulteration
- Introduction of alternate fuels like CNG/LPG
- Improvement of public transport for discouraging use of private vehicles
- Ban on alteration of Petrol to diesel vehicles
- Imposition of ban on registration of new diesel three seater and six seater rickshaws in the city
- The sale of four stroke new two wheelers only
- Introduction of synchronised signals with time
- Bypassing of intercity interstate traffic
- Higher road tax for older vehicles.

Although the Pune Action Plan is well begun, it may be ages before it shows results and reduces the pollution level in the city.

**Growing Garbage Problems:**

Biogas generation could be the answer to Pune’s growing garbage problem.

**The benefits of Biogas Generation:**

- Natural waste treatment process
- Requires less land than aerobic composting or landfilling
• Reduces disposed waste volume and weight to be landfilled.
• Reduces concentrations of leachates

**Energy Benefits**:  
• Net energy producing process  
• Generates high quality renewable fuel  
• Biogas proven in numberous end-use applications  
• Environmental benefits  
• Significantly reduces carbon dioxide and methane emissions  
• Eliminates odours  
• Produces a sanitised compost and nutrient rich fertiliser  
• Maximises recycling benefits

**Economic Benefits**:  
• It is more cost-effective than other treatment options from a life cycle perspective

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8.5 **COMMENTS OF EXPERTS AND OTHER CITIZENS ON SUSTAINABLE DEVELOPMENT REPRESENTING SOCIAL, POLITICAL, BUREAUCRATS & NON GOVERNMENT ORGANISATIONS**

What Can be done to make Pune and Pimpri Chinchwad Environmental Friendly and make better place to live?

After examining the political, social, economic and cultural dimensions have their roots in influencing the Sustainable Development,

Let me make presentation on the questioniers forwarded:
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**Total** | 1720 |
Summary on Statistical table showing representation areawise:

_Pune City_

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<td>B. 65 yrs and above</td>
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<td>C. Upto 12th Standard</td>
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<td>D. Graduates</td>
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<td>E. Others</td>
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<td>Occupation</td>
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<td>Personally contacted</td>
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**Slums & Huts in Pune**

1. Parvati Hillbased 6
2. Dandekar Bridge 5
3. Indiranagar 7
4. Yerawada 5
5. Patil Estate 7
6. Ramtekdi / Hadapsar 4

**Total**

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**Age Group**

A. 18 to 35 years 8
B. 65 yrs and above 11

**Educational Qualification**

A. Uneducated 9
B. Upto 7th Standard 10

**Occupation**

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### 8.5.2 Pimpri Chinchwad Wardwise questioners forwarded:

Table No 26:

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**Total**: 496
### Summary on Statistical table showing representation areawise:

**Pimpri Chinchwad**

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#### Age Group

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<td>C. 18 to 35 years</td>
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<tr>
<td>D. 65 yrs and above</td>
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#### Educational Qualification

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<tr>
<td>A. Uneducated</td>
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<td>B. Upto 7th Standard</td>
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<td>7</td>
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<td>C. Upto 12th Standard</td>
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<td>D. Graduates</td>
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#### Occupation

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### Slums & Huts in Pimpri Chinchwad

1. Siddharth Nagar  
2. Durga Nagar  
3. Saibaba Nagar  
4. Subhashnagar  
5. Vithalnagar  
6. Landewadi  

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### Age Group

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### Educational Qualification

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### Occupation

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<tr>
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Let me make analysis of comments of Experts:

1. Dr. R. R. Pardeshi, Assistant Medical Officer of PMC, comments:

"We have already started to fine societies which are not abiding by the rule. The fines will continue as long as people flout the rule." The corporation aims to make Pune an environment friendly city by recycling the dry garbage and using wet garbage for vermiculture. "We have our ghanta gadis to collect the wet garbage from restaurants, hotels and wedding halls".

Even as the implementation of various projects and drives carries on, the Pune Municipal Corporation is thinking of making biogas projects compulsory for any new residential and commercial complex coming up. "The littering of dry leaves and burning is also prohibited".

Following are the additional comments from the cross section of people after the interview:

2. Mr. Manoj Khairkar, Dev. Engineer, Vigilance Dept and Head of the PMC Eco Cell.

PMC Eco Cell was established in order to address environmental issues. The four main areas for the cell are implementation of non conventional energy (wind, solar etc.) conventional energy, rain water harvesting and decentralised waste water treatment. As incentives, tax exemptions are given to those who implement one or all of the four alternatives. Apart from that we are currently carrying out a study about how the city can be made cleaner.

3. Mr. Mohan Dharia, President, Vanrai, Former Dy. Chairman, Planning Commission and Commerce Minister – Govt. of India.

Taking into consideration current state of affairs of Pune, I feel we have to avoid any further growth. There have to be double efforts to cover all hills in the city with trees and all rivers must be cleaned. In order to stop
pollution, CNG any other such alternatives must be made mandatory. In his
capacity each citizen must support NGO’s and other such movements
working for the betterment of the environment.

Some of the queries posed to him are:

a) How can we control pollution in the city?
   Pune requires a modified development plan. The Pune hills, the
   Mulla Mutha river and the open areas must be cleaned. Moreover, the
   garbage should be differentiated into that which can and can’t be
   recycled.

b) Are the authorities taking sufficient steps to curb pollution?
   No! I certainly don’t think so. In spite of efforts by authorities the
   hills are no longer green. Lobby of builders are taking over the
   corporation. As a result, the hills are being destroyed. The slums are
   also increasing. If the PMC wants, it can stop slums from coming up.
   Rehabilitation of the existing slums dwellers is also not taking place.

c) How are the citizens of Pune getting affected?
   Health problems are certainly increasing. Due to water pollution
   diseases like cholera and typhoid are increasing among low income
   groups.

d) What can the citizens do?
   Without the participation of the citizens, pollution in the city can
   never be curtailed. They should make sure that the government and
   corporation know what they want. They should stand up together
   against their rights to a clean environment.
4. Mr. Sanjay Deshpande, Joint Managing Director, DSK Environment Cell
First of all people have to develop a will to do something. Smallest of changes in ones lifestyle can make a huge difference. Major energy saving can be done at three levels in any housing complex. Use of Central Solar water heating systems, thus saving in electrical energy. Use of Effluent treatment Plant, thus saving natural water, reduction in pollution of ground water as well as saving, in electrical energy for pumping the natural water which would have been utilised instead. Lastly, use of biogas products from domestic waste in the complex.

5. Mr. Pankaj Sekhsaria, Kalpvriksh (Environmental NGO)
There is an urgent need for policy change in terms of traffic management. If Pune has to be made environment friendly, we cannot keep widening our roads and cutting down trees. We should also start building a tree cover. Apart from that, there has to be some restriction on private transport and people have to co-operate. This will help in popularising public transport.

6. Ms. Panchi Bora, Student, ILS, - College Pune.
Earth is a beautiful place and we should preserve it. One an individual level, we can plant trees, use water sparingly and stop using plastic bags. Of course, each of us must ensure that we don’t litter, whether it’s organic or not.

7. Prof. Vijay Paranjape, Head, NGO : GOMUKH
The condition of the Mutha is so bad that the Maharashtra Pollution Control Board (MPCB) had to file a criminal case against the PMC. Indeed a matter of great shame for the modern and progressive metropolis that we pride ourselves in. Unfortunately, neither the PMC administrators, nor the Corporators have bothered to correct this
anomaly. Pune continues to release raw, untreated sewage directly into the river, without realising that hundreds of villages and lakhs of farmers downstream have to either drink such contaminated water or use it for irrigating their lands.

A part of this untreated sewage (about 15%) is currently percolating into the shallow ground water aquifer and polluting the water in dug wells and borewells in the city. The situation is so alarming that the ground water table as actually risen due to the infiltration of sewage.

8. Mr. N. B. Choudhari, Sub Regional Officer, MPCB

MPCB is not very happy about water pollution. The Pune district has two corporation viz. PMC and PCMC, 11 municipalities and three cantonment boards. The most sewage generator is PMC with 451 mld (million litres per day) with PCMC at 160 mld. The untreated sewage is literally polluting the rivers Mulla, Mutha, Pawana and Indrayani. “We are trying to convince both the corporations to construct additional sewage treatment plants. The PMC also has mentioned in the 10th five year plan, a river clean action plan, which is yet to be implemented. Besides this plan, the bad drainage system in the newly acquired villages by PMC is also add sewage to the river through nallahs. Private consultants like DD and Associates group of companies, have taken active interest to help clear the river water system through Environment Impact Assessment (EIA) . An empanelled consultant for the central water commission, Government of India, they suggest that EIA is a powerful tool for ensuring optimal use of natural resources which in turn will ensure sustainable development.
9. Dr. Rajesh Parasnis, spine surgeon in Sancheti Hospital

Most aged couples in the city today are suffering from respiration disorders and osporosis. Osoporosis is lack of calcium and vitamins and the deficiency occurs chiefly due to lack of space in the city to take a walk. ‘As a spine surgeon, I am now dealing with such cases practically everyday. Aged people need to walk around and get some exercise. However, now they have no such places to walk freely.

With the city being converted into a concrete jungle, open space is surely a luxury. But not just the old, even the younger generation is suffering from ailments like bronchitis and asthama arising out of air pollution. Today you have more cases of juvenile diabetics in the city than ever before. This apart, cases like diarrhoea and stomach problems are on the rise due to water pollution.

10. Dr. Nitin Sangamnerkar, a Gynaecologist at Dwarika Sangamnerkar Hospital

A lot of cases of loss of fertility have been reported and the count is increasing every year. According to Dr. Sangamnerkar these cases are mostly due to the increase in the level of pollution in the city.

11. Dr. Alka Gadgil, an environmentalist:

To check this rising pollution it is essential that people are aware and consider it their responsibility to have vehicles PUC tested and serviced regularly.

12. Dr. Vikram Ghole, Head of the Department of Environmental Sciences, University of Pune.

As a way out, planting of trees is essential as they not only take in the carbon-dioxide but also have a high dust holding and moisture maintenance capacity. Planting indigenous plants like peepal etc.
instead of the exotic variety is useful as they grow easily and do not require any special maintenance and care. Improving public transport system will be an added measure towards tackling air pollution in the city as the dependence on personal transport will then decrease. Using CNG as alternate fuel can further boost the initiative to depollute the city. In Pune burning of garbage bins is also common. But they emit dioxins which are very dangerous to health. To handle the situation, segregation at the household level can help largely. Also decentralisation of waste sites can lessen the load at one place and make the segregation and treatment simpler.

13. Mr. Aditya Javdekar of Vilas Javdekar Associates
   We as builders are definitely working towards environment but it is also the duty of the common man to adhere to certain discipline to conserve energies and maintain the ecological balance.

14. Mr. P. A. Inamdar, Chairperson, Promoters and Builders Association of Pune
   There is more to the issue than just planting trees. Environment has become a serious issue than just a thought in last two three years. We therefore have set up a sub Committee, Environment Committee, at PBAP to look into the matter

15. Mr. Sujit Patwardhan, Parisar – NGO
   Each development plan of PMC has road broadening and more roads. Which according to me is not the solution; neither to pollution nor to the traffic scene.

16. Mr. Ashish Kothari, Kalpavriksha
   PMC should concentrate on the 2-3 key issues facing the city, including a vigorous drive to improve the public transport system and actively reduce
private vehicle numbers, as also promote cycling through exclusive lanes and other measures; promote water harvesting in all buildings and clean up the river; ensure that green areas including the hills are not encroached upon by any thing. According to me, buildings should ensure that all buildings, existing and new, have water harvesting, full energy efficiency and use of alternative (clean) energy sources, and domestic waste recycling. They should also explore alternative building materials.

17. Mr. Chandmal Parmar – Chairman Rajashree Parmar Foundation : Encroachment on the footpaths is another major problem for Pedestrians. The width of footpaths has been reducing which has made people walk on roads.

The solutions: Firstly, the civic body should provide footpath on both sides of the road. "There are at least 17 important roads in Pune where footpaths are needed,“ feels Parmar. Secondly, Pune needs more subways - at present there are only four. Thirdly, the zebra crossings should be made visible. Fourth and most importantly, the flow of unnecessary traffic in the city should be checked. In Pune there are more than 1 lakh per car units which are unnecessarily entering the city.

Builders have through PBAP decided to do the following:
- All new complexes will have rain water harvesting devices
- Reuse water by providing recycling systems at the new complexes
- Have separate garbage chutes for wet and dry garbage
- Educate the residents about vermiculture and use of garbage as fertilisers
- Plant more trees than stipulated by PMC
• Plant trees that help re-establish ecological balance, than any trees for the sake of planting
• Make use of solar energy wherever you can
• Making that extra capital investment in the initial stages of the project to save wastage of power and water when the residents settle down
• Not to cut trees on the plot and plan the development around the existing trees.

Rain Water Harvesting & Water Management:
• Proper slopes to terrace
• Downtake lines should be cleaned before monsoon. If you do not have them, you need to provide them. PVC piping will also do to check the costing.
• Proper slopes to the ground to ensure that all rainwater goes to a single spot at ground level. This is possible with the help of ordinary labour or a mason. Agencies are available to guide on the same.
• Regular checking of water pumps as well as level controller. Use of hydro pneumatic systems.
• Routine check ups of waterlines & leaking valves.
• Used recycled water for the following washing of common areas like stair cases, passa

Power Savings :
• System Use of common electric lighting
• AMC of common appliances like lift, generators, common water pumps
Tree Plantation:
- Planting the trees like neem, raintree, gulmohor, audumbar which will be ever green as well hold the water which otherwise gets evaporated or seep deep underground. Instead of cutting & avoiding these trees if we take a little trouble to tolerate them & allow them to grow, they will take care of rain water.

Garbage disposal:
- Habit of collecting the garbage in dry & wet form separately.
- Vermiculture, composite in the society even individual flat level open terrace or balcony in three pots also can be done. One has to imbibe this in your everyday life to create an environment friendly ambience. Celebrating Environment Day is not the solution. Making it a lifestyle.

Watershed Management:
The PMC must invest at least Rs. 30 Crores during the next five years in urban watershed development that can yield a net addition of 200 MLD of fresh water to Pune's water supply. Roof-top rainwater harvesting must be made compulsory for all public buildings such as Pune Municipal Corporation, Central Building, Govt. Offices, large Corporate Offices, Educational Institutes, followed by government notification marking it compulsory in all new private residential complexes.

Water Tariff:
The PMC must immediately scrap the system of charging water rates based on property valuation and implement volumetric control and metered charges. The current water charge has to be increased from an average of Rs. 3.50 per thousand litres to Rs. 12 per thousand litres, so that the true and full cost of water purification, distribution and sewage treatment is
recovered. This alone will ensure that water is not wasted, that those who consume excessively large amounts of water for activities such as watering huge lawns etc. are charged for the water.
PART III

CHAPTER 9

CONFLICT OF MARGINAL SOCIAL NET PRODUCT (MsnP) AND MARGINAL PRIVAL SOCIAL NET PRODUCT (MpsN) – IMPACT ON SUSTAINABLE DEVELOPMENT – ROLE OF GOVERNMENT

9.1 MAJOR FACTORS OF ECONOMIC GROWTH:

i) Capital accumulation – implying new investment in land, physical equipment and human resources.

ii) Growth in population in its qualitative and quantitative aspects influencing the quantity and quality of manpower.

iii) Technological progress – leading to improved ways of accomplishing traditional facts.

There is complementarity in the ways in which the above major factors (components) of economic growth function in the process. Capital accumulation results when present income is saved and invested in new constructions, machineries, equipments tools and materials – thus leading to increase in the physical ‘capital stock’ (new asset formation – the long term aspect of development – e.g. electricity generation plants, road development, research institutes and laboratories etc.) This capital accumulation helps to augment future output and income of both the society and the individuals who are members of the society.

The direct productive investments are supplemented by investments in social and economic ‘infrastructure’ – road, electricity, water, sanitation, communication, education, public health and welfare schemes. These
investments facilitate and integrate economic activities e.g. investment by a farmer, in a new tractor enables to increases the output and surplus product can be exported to local market implying addition to national food production (increase in Marginal social net product – MsnP as well as increase in Marginal Private Net Product – MpnP) as a result of investment. There are other ways of investment in a nations’ resources which may improve not only quantum of national product but also quality of national product – e.g. installation of irrigation facilities may improve utilization and quality of agricultural land raising farmers productivity. Use of chemical fertilizers and control of insects also have beneficial effects in raising the productivity of existing farm land. Thus such investment improve the quality of utilization of existing land resources and manpower utilization. Thus total stock of productive and ‘usable’ land and labour force (man hours or ‘working hours’, as a result of investment.

Investment in human resources leads to ‘improvement’ in the quality of human factor (labour or work force) and has more powerful and positive effect on the quantitative (numbers) and qualitative aspects ( skills, values, proficiency, health, education of human resource, schooling, vocational guidance, adult education, family planning, ‘informal’ education, literacy programmes, on the job training programmes and other public welfare oriented activities augment human skills and resources.

Direct investment by Public Authority in buildings, roads, equipment, transport equipment, medical services – educational services through – books, film projectors, personal computers, science, equipment, vocational tools and machinery – can improve quality, leaderships and productivity of human resource (labour force or working population.)
The various forms of investment, no doubt lead to capital accumulation – implying addition to the existing resources and creation of new resources by attaining ‘optimum’ utilization of unused land, labour as factors of production and upgradation of the quality of existing resources. However the most important assumption underlying the whole argument about the role of new investments in land, physical equipment and human resources leading to improving quality of existing resources – is that there is a trade - off between present and future consumption – giving up a little scope, (sacrificing something from the present income), so that more can be obtained later in the form of greater productivity and welfare of population. In the relationship between growth in population and growth in labour force, many serious issues shall be created in the process of development of the micro and macro level – ISSUES IN HUMAN WELFARE / SOCIAL WELFARE. Population growth and the associated increase in the labour force has been traditionally considered as a positive factor in stimulating the process of economic growth. A large labour force is supposed to mean more productive manpower and a large and continuous overall population is supposed to increase the potential size of the domestic market. However it is questionable whether rapidly growing human (not necessarily ‘man-power’) supplies exert a positive influence of the process of economic development. The explosive growth of human population has been posing a threat to the terrestrial life comparable to that of overpopulation. Even growing population at a tremendously high rate has rendered countries ‘under developed (UDCs) – actually ‘hungry’ where the basic subsistence needs of food, shelter and clothing of a man (living ‘below poverty line) cannot be satisfied. The UDCs are for a long time caught in the vicious circle of poverty and stagnation.
The characteristics of chronic underdevelopment are:

(a) Low tempo of industrialization
(b) Inefficient subsistence food production system
(c) Extremely low gross national product and per capita income
(d) High illiteracy rates
(e) Incredibly high rates of population growth leading to permanent inertia and stagnation leading to never-to-be developed countries.
(f) Economic system (the macro-environment) has no ability to absorb additional man power and the managerial and administrative skills associated with the process of capital accumulation and technological progress which leads to evolvement of improved ways of accomplishing traditional tasks.

Neutral technological progress enables achievement of higher output levels with the same quantity and combinations of factor inputs e.g. if garbage is collected with the help of machines by purchasing new transport equipment enables doubling of other productive input on the production curve. Neutral technological progress is neither capital saving nor labour saving.

In the case of labour saving technological progress use is made of highly innovative automated and high-speed electric and electronic equipment (computers). As a result there is outward shifting of production possibility curve by multiple use of productive inputs. Capital saving technological progress is a much rare phenomenon.

The primary purpose of all scientific and technological research is to save labour provide more comforts for masses and not capital – more so in developed countries. In the labour – abundant capital scarce countries, capital saving technological progress is most needed. Such progress results in more efficient (i.e. lower cost) labour intensive methods of production e.g. use of rotary powered weeders, foot-operated pumps or back mounted
mechanical sprayers for small scale agriculture development of indigenous, low-cost, efficient, labour intensive and capital saving techniques of production is an essential ingredient in any long run – employment – oriented development strategy. Technological progress may also be labour or capital augmenting – when quality or skills of labour are upgraded by use of highly sophisticated mechanical equipment (use of computer, mobile telephone and other media for instruction) capital augmenting technological progress results in the more productive use of ‘existing capital goods e.g. substitution of steel for wooden plough in agricultural production. Technological progress of whatever nature, in general, bring about growth in land and labour resources and capital stock. The effects of technological changes are of two types (i) rising levels of income (income effect) (ii) Saving of resources as a result of substitution of one factor of production in place of another (substitution effect).

Thus, it can be concluded, that sources of economic progress can be traced to a variety of factors, but by and large, investments that improve the quality of existing physical and human resources, that increase the quantity of these same productive resources and that raise the productivity of all or specific resources through invention, innovative and technological progress have been and will continue to be primary factors in stimulating economic growth in any society.

Ref. : Economic growth can be stimulated provided –

(a) production choices – open to the economy are appropriately made
(b) output and opportunity cost implications of idle or underutilized resources are properly analysed and understood in the context of underdevelopment, which has many faces.

(as described by Debraj Ray in his Development Economics Pg. 25 – 48 – Pg. 121 – Kuzuet’s six characteristics of Modern Economic Growth.)
The fundamental issues concerning economic development (progress in economic transformation of the low and middle income countries) of developing countries are internal to the structure of developing country or region. Economic development is a multi-faceted concept embodying not just income and its growth but also achievements on the front of human welfare development e.g. reduction in infant mortality, higher life expectancy, advances in literacy rates widespread access to medical and health services. Thus increase in per capita income should not be identified conceptually with development in larger perspective. The overall idea of human development conceptually goes beyond per capita income as an operational measure of development.

The structural characteristics of developing region pertain to –

a) demographic characteristics showing a general tendency of population growth to decline with increased per capita income

b) occupational and production culture with agricultural activity accounting for a significant fraction of occupations

c) high rates of rural urban migration – movement of labour force as the outcome of ‘push’ from agriculture and ‘pull’ of the urban sector – the pulls are reinforced by high wages and worker protection level offered by organized urban sectors and media which promote the urban life style as a desirable and in itself is misleading. However the migratory processes are ‘accelerated’ in modern economic growth process and may impose enormous strains one of the symptoms of the strain is that large fraction of the population developing region in the service sector – banking, tourism, restaurants, travel. In developing countries a large part of non-agricultural labour is allocated to the services sector when non-agricultural labour is lacking an industrial job owing to general
recessionary conditions leading to high unemployment levels in industrial labours sector. The enormous service sector is symptomatic of the development of unorganized or informal sector. The service sector is the home of the last resort – the shelter for the millions of migrants who have made their way to the cities from the rural sector of petty retailers, middleman, peddlers, etc.

The problems of heavy migration from Konkan area – To Pune – Bombay – Pimpri Chinchwad with the hope of survival and comf. Like, more than ‘Population absorption’ capacity.


2. Problems of adequate water supply even in municipal areas – inadequate water storing facilities.

3. Large scale deforestation, in the process of private and public construction work – co-op. Sector.

4. Multi-storied buildings resulting into lack of fresh air, ventilation, light facilities, use of artificial devices – water coolers / air coolers, air conditioners, makes life more costly but uncomfortable.

5. Ecological imbalances – Pune – Mula Mutha river without sufficient water flow – riverside pollution


7. Drainage – disposal of waste – Failure in the system badly affecting the health.
9.2 DILEMMAS AND DUALISM IN ECONOMIC PROGRESS:

1. Public V/s Private Property
2. Welfare of Class V/s Welfare of masses
3. Physical V/s Psychological

The people of UDCs cannot escape from poverty and misery unless their populations are controlled – given their physical and biological resources and their social systems. The population growth rates aggravates economic problems and deteriorates standard of living and thereby standard of life – making difficult or rather impossible the necessary institutional, attitudinal and ideological adjustments for realizing the growth potential inherent in the new technology and technological advances and progress. Technological innovations without concomitant social innovations is like a light bulb without electricity. Thus there is complementarily among the social and economical forces operating to initiate and expedite development process.

In order to maintain and uplift living standards of future generations, the present generation must double every amenity and infrastructure for the support of human beings of different groups (children, youth and adult – without ignoring the importance of woman force, ‘woman’ power – apart from ‘man’power.) homes, schools, roads, hospitals, garage, professional services, in medicine, education engineering etc. There should be ‘doubling’ of agricultural output, imports, exports – capacity of water system, road & vehicles (for goods transport and passenger transport ) electric generating plants – The implication for this economic transportation is that the present generation committing sins in different forms must sacrifice in terms of money and values for future generations. This sacrifice in later stages would go on diminishing when economies of scale earned would reduce needs to something less than ‘double’. The fruits of this exercise would manifest in
abundance of capital, fine industrial base, rich natural resources, excellent communication and virtually 100% literate population.

Deforestation contribution to pollution, desire for earning more and more wealth through unfair practices. Such people are least worried about court matters and punishments have lost their value in personal and families.


‘By a social system we mean the interdependent relationship between so-called economic and non-economic factors. The include – attitudes toward life work and authority, public and private bureaucratic and administrative structures, patterns of kinship and religion, cultural traditions, systems of land tenure the authority and integrity of government agencies, the degree of popular participation in development decision and activities and the flexibility or rigidity of economic and social classes.

Resolving development problems and achieving development is a much more complicated task than some economists would lead us to believe. Increasing national production raising levels of living and promoting widespread employment opportunities are all as much a function of values, incentives, attitudes and beliefs as they are the direct outcomes of the manipulation of strategic economic variables such as ‘savings, investment product and factor prices and foreign exchange rates “Lord Keynes has used the term – ‘propensity’ to save, investment and consume meaning thereby that they are ‘speculative tendencies’ of the mind. These tendencies are the result of historical, cultural and religious forces in the process of social integration or disintegration. These forces – the non-economic variables are non-quantifiable and therefore, are of dubious importance, but play a critical role in the success or failure of proper development effort. e.g. the role of
traditional property rights is vital in ‘allocating resources’ and distributing income (Paper of Barthakar)

Similarly the influence of religion or attitudes and consequently the overall developmental process is paramount and in development economic analysis of the nonquantifiable non-economic variables in the social setting and social culture cannot be excluded from scientific and rational economic thinking. An economist, social thinker, political leadership and business community (the classes and masses) must always try to be mindful of the ways in which values, attitudes and institutions (both domestic and international) play a crucial role in the overall development process.

9.3 ROLE OF THE STATE CONTROL VIS-À-VIS GENERAL ECONOMIC DEREGULATION:
Active role of the Indian Government at any level – local, national & international has to be analysed in the context of a peculiar mixed economic system adopted by the country where both public and private ownership and use of resources co-exist and are supposed to be compatible with each other – though priorities in resource allocation by the state and that by private individuals may be different. Social development and social well-being (public welfare) receive topmost priority as objectives of the overall economic, political and social policy of the Government. As social well-being (public welfare) is closely connected with economic well-being (which can be achieved by ‘rational resource allocation and utilization) economic and social (welfare) well-being have been included in the objectives of the New India Eco. Order (New York Perganon 1978) NIEO also assures economic sovereignty of the State over natural resources and right of the State to control their misuse, exploitation – including the right to nationalize or ‘privatise’ resource – ownership and utilization.
The choice of mixed economic system in India is made deliberately after considering the ‘pros’ and ‘cons’ – the realize merits demerits and their consequent relevance for ‘Indian’ culture. The alternatives have been –

(a) market economy – a free private enterprise economy governed by consumer sovereignty, price system and the forces of demand and supply market mechanism controls and facilitates the working of the price system determining allocation of scarce resources goods and services. In pure market capitalism most of the resources are privately owned and allocation is done exclusively by the price system in a perfectly competitive situation where the ‘invisible hand’ is supposed to operate under the conditions obtained in ‘Laissez-faire’ (market capitalism) and the assumption for the operation of the market mechanism with its price system is that unbridled pursuit of individual self interest automatically contributes to the maximization of social interest. However in the final analysis the realization should be that development of every person (as a member of the society or economic system) depends directly or indirectly on the development of all persons. Moreover social well-being is not necessarily the sum-total of well-beings (welfare states) of individuals in the society . (Pg 4 – Debraj Ray).

(b) Market failures in reality are the outcome of market imperfections like-emergence of monopoly power, factors unimobility, significant externalities, lack of knowledge – leading to weakening of the free-enterprise system. When market failure ‘fails’ to realize its theoretical beneficial results – it provides justification for government interference with the working of free market. There is thus gradual replacement of market mechanism by market socialism or ‘command’ socialism wherein resources are
state owned and resource allocation pattern of utilization is determined by the centralized decisions of planning authorities rather than by a price system – which may fail to allocate resources 'rationally' and may create and enlarge divergence between the public good and private good (MsnP – marginal social net product and MpnP – marginal private net product).

Markets are intrinsically bad or good. It is necessary to analyse and understand the condition under which they fail or function at an inefficient level and later to determine appropriate policies (regarding "whether" of regulation or "how much" of regulation) can fix such inefficiencies. Such a fixation depends on understanding of three conditions (theories) incomplete information of incentives and of strategic behaviour. A fundamental implication of missing markets is that inequality in the distribution of income or wealth plays a central role in many development problems and strategies. These problems and strategies for development in developing countries like India (middle income countries) should not be understood with reference to the international environment. The fundamental and varied issues are internal to the structures of developing countries. They may pertain to 'aggregates' (macro levels) of basic activities like consumption, savings and investment by the people, employment interest and money). In other words developmental economics and developmental policies of the State is a conglomeration of many branches of economics viz. macro-economics, micro-economics, labour economics, public finance or monetary economics.

Social well being with which the State is concerned as a matter of priority is very closely connected with economic well-being.

The modern development economics modern theory of state regulation or deregulation of functions in economic system (production, distribution,
saving, investment, consumption income & expenditure) stands in contrast with ‘traditional’ neo-classical economics. It is also not similar to the economics of advanced socialist societies (Marxian or ‘consumed’ economics). But development economics nothing more or less than the economics of contemporary poor, underdeveloped nations with varying ideological considerations, diverse cultural backgrounds and very complex but apparently similar economic problems that usually demand new ideas and novel approaches towards economic development and social well being public welfare.

Indian economy has been in a constant State of flux since its emergence and independence as a sovereign State there has been series of economic restructurings characterized by periodical rearrangement of industries. This implies manifold institutional and behavioral changes. Charges have not been distributed evenly across all sectors. Forces of inertia have sometimes proved stronger than the tempo for development and policy objectives have not materialized. Experiments with monetary and fiscal policy entail – extensive financial deregulation tax reforms, import controls, revision of industrial policy, more emphasis on R & D structural adjustments necessitated by foreign direct investment – firms diversifying their product range, increasing competition in the distributive sector.

The regulatory and deregulatory role played and to be played by a sovereign Democratic State, government department, government company or governmental corporation or a local civic body) is meaningful for achieving the two complementary long run objectives of development with stability (promotion of the process of economic development, caring for survival of the economy during transitional stages, measures against the downfalls trade cycles, recession and stagnation). The role accepted by the State is political economic and intellectual force behind the tempo of development.
A welfare state in a democratic society operates with fair and open attitude. The phases of regulation and deregulation of economic activity by the State would be transitional in the case of a mixed economy and the relative importance and role of the public sector and private sector in the socialist pattern of society may vary according to the emergence of the problem and the strategy for survival in the short run and development in the long run. However public interest and public good (social well being) would be the paramount objective of government policy and strategy for capital formation (creation of national assets) and administration of pricing and allocation of resources. Public service will be the motto of bureaucracy and government shall be the center of real bureaucratic power.

The governmental (political) power obtained by public opinion poll and the bureaucratic machinery of the service of (and perhaps ‘mercy’) of the Government (State) shall be used for bringing about economic and social reform; with such a vision that policies and strategies are for the development of a nation and national spirit of the people. The classes of the economically strong and the masses of workers, consumers, farmers and other common citizens shall enjoy freedom and impartial social justice under the vast array of laws, ordinances and customs – breaking the misuse of power by bureaucracy or turning the bureaucratic power to the social good rather than vested private interest, State agencies and departments will operate in such a manner that citizens, as consumers, will have more choice, as producers, will have more privilege if they keep in view the broader objective of social development rather than private profiteering. Labour laws would be such as to ensure dignity of labour – stability of workers’ life materialized in gainful and permanent employment without exploitation at the hands of their bosses who will not be privileged by unlimited economic
power over resource utilization. Citizens in a democratic socialist welfare state shall never face the calamity of losing their sovereignly because of the anti-social manipulations by private entities to serve their vested (political, economic and social) interest. For all the citizens of the society the principles of national duty shall transcend the constitution and government shall be vested with exclusive right to ‘budgetary’ powers. Since, without financial powers the entire structure of Government is meaningless and efforts to bring about ‘rational allocation and ‘optimum’ utilization of resources for social welfare and social justice are not possible.

In fact Finance Ministry of a developing democratic economy like that of India cannot afford to achieve a conservative national budget balance – the myth of the ‘balanced’ budget has now been exploded and the policy-makers of the developing economics have escaped the excesses of neo-classical or purist free market economy and (governments of developing economies) have become wary of the missionaries (the economists) of * neo-classical or purist free market economics. e.g. the policy-makers of the LDCs are required to ‘tak-off’ into a period of self-sustaining ‘economic growth’ with massive investment programme designed to promote rapid industrialization and the building up of economic-infrastructure. The governments of the developing economies like India have to be all the while aware about the absolute and comparative cost advantage in respect of more production of some commodities which can take place with the same amount of real resources. For addressing the abrupt problems and other problems of mishability (economic fluctuations: inflation recession & depression) unemployment, inequality. Government must manipulate ‘budget’ as an investment tool of economic policy for development of the society with economic stability (and not necessarily political stability) and maximum social welfare (by attaining “bare subsistence” levels and essentials of food
shelter and clothing – for maintaining minimum levels of standard of living and standard of life – individual and social). Thus a welfare state of a developing economies (like India) have to adopt and practice principles of ‘advanced’ capitalism (the economic system characterized by private ownership but with a major public problem – solving role of the government (public sector) in a socialist pattern of society.

The neo-classical price incaptive model of economic growth or the Marxian growth model of ‘command’ economy are not adequate or relevant in the analysis of economic development of LDCs. Principles of economy (economisation) appropriate technology and economic efficiency are more relevant for optimum allocation and utilization of resources of an economy adopting socialist pattern of society.

Rigidities in the social system should be removed to develop capital (physical) as well as human resources. A social system is typically a class unit that has conservative values which render the system resistance to modernization ideals and therefore structural and institutional are necessary to ‘accommodate’ development requirement of a social system (Note & reference – structural adjustment) adjustment loans provided by the World Bank are designed to foster structural adjustment in the LDCs by supporting measures to remove excessive governmental controls, getting factor and product prices to better reflect ‘scarcity’ values and promoting market competition.

The hypothesis underlying this structural adjustment is that underdevelopment is due to underutilization of resources arising from structural and institutional disorders having their origin in both domestic and international dualistic situations. “Development” requires more than just accelerated ‘capital’ formation as espoused in the ‘stages of growth’ and ‘false paradigm models of development. This process of structural
transformation increases contributions to ‘national income’ made by various sectors – (private – public, rural urban, agriculture and industry - small and large scale sector, governmental or non-governmental sector primary, secondary and territory sectors etc.)

9.4 WELFARE STATE:

A welfare State of an underdeveloped economy has major commitment to the masses of people who live below poverty line, who are unemployed who are harassed by upward and downward fluctuations in the process (inflation and recession of survival and progress.

Working of the elected governmental machinery in a welfare state, should highlight the importance of at least the following:

(a) a merit based good and solid universal education system
(b) efficient bureaucracy staffed with officials dedicated to their country’s advancement.
(c) Development oriented unapologetic government which is not afraid to tamper with the market mechanism when it malfunctions.
(d) Framing policies suitable to the needs of free enterprise and competition.
(e) Act as a reservoir of entrepreneurial talent which takes a long term view, which ploughs back surpluses (profits) by generating and inducing willingness to save and invest.
(f) Create a strong work ethic in a labour surplus situation.
(g) Enactment of laws creating a secure and stable environment
(h) Fiscal policy should be timely problem solving and based on the principles of functional finance – heavy public expenditure to combat unemployment and recession and general economic and tax reforms for reducing inequalities and raising governmental revenue.
The basic function of a Democratic Welfare State adopting mixed economy pattern for achieving survival, stability and development should dominate policy formulation with suitable modifications from time to time in such a manner as to create an economy with low unemployment and high saving rates, increase exports and reduce imports. Such a policy formulation takes into consideration various dimensions of the fundamental problem viz. 'putting the economy or the right path of economic and social progress' – These dimensions are interdependent – and are interwoven into one integrated theory for policy formulations – e.g. special cases of labour, economics, international trade, money and finance, demographic issues etc. 

In the different spheres of activity the State has to make up common failures of information and legal structures and solve common incentive and strategic issues keeping in view the structural characteristics of a developing economy. (demographic structure, occupational and production structure, rural urban migration the 'services’ structure).

In resolving these dilemmas, a 'multi-disciplinary' approach is necessary – because social well being or public welfare is not just a sum total of well-being (feelings or thoughts of one's own happiness) of individuals in the society. The basic principle of social welfare is that in a society, one individual cannot be better off, without making another person worse off. Everything depends on the importance given to 'sacrifice' by an individual through – 'self-realisation'. Welfare, a sense of well-being is the creation of 'O' 'K' attitude according to modern psychological principles.

I am OK and Your are OK - fine
I am OK though you may not be OK - who cares attitude
I am OK - if your are OK (healthy)
I am OK if all are OK
9.5 ROLE OF GOVERNMENT – AS A WELFARE STATE:
In economics, development and welfare are interrelated issues for research, leading to developmental schemes, strategies, programmes and policies, economic inequality, poverty, unemployment inflation, under nutrition as a result of population growth, trade policy and markets for land, labour and credit. There is a common point of view underlying the treatment of these problematic situation. Viz.

Much of the development process can be understood by studying factors that impede the efficient and equitable functioning of markets – because of emergence of new growth theory, moral hazard in contractual relationships in respect of sale and purchase of property, land, labour and credit (finance). Basically economic inequality has important macro-economic implications whose impact on programmes and policies is meaningful and significant in the context of improvement of physical and human capital. The reduction of inequality and creation of institutions governing flow of information as essential to market performance. There is little doubt that per capital income or even the equality of its distribution does not serve as a unilateral guarantee of success in human development (though perhaps GDP may act as fairly good proxy for most aspect of development).

Human development depends on the extent to which the issues of industrialization and technology are solved. Capital should be made available to the poor entrepreneurial sector of the economy on concessional terms.

Industrial productivity / capacity should be negotiated for redeployment (e.g. between tertiary stages and intermediate stages of productivity or primitive indigenous technology for generation of self employment.) Industries hiring a high labour content and requiring ‘natural’ resources and industries
processing locally available raw materials & using local technologies should get priority in planning of industrial and agricultural development. Mechanisms should be established for transfer of technology or for creation of indigenous technology through R & D and controls should be exercised over the import of technology. For that purpose activities of transnational enterprises (MNCs) should be supervised and regulated and restrictive business practices should be eliminated and entertain only those practices which conform to priorities in the national development plan at the same time competitiveness of the indigenous products should be improved to eliminate competition from 'synthetic' substitutes. When country's natural resources are satisfying requirements of the market new investment for the expansion of the capacity to produce synthetic materials should not be made.

Benefits of industrialization (better health services, education, higher cultural standards and qualifications for the work force and assuring the wellbeing of children and integration of women in the development process) should be equally distributed away the member-citizen of the country and for that purpose the tools of monetary, fiscal and trade policy should be used.

It can be concluded in the words of Paul P. Streeten (quoted by Prof Michael P. Todaro in his book ((p.62) on Economic Development in the third world. Director, World Development Institute -

'Development' must be redefined as an attack on the Chief evils of the world today:

malnutrition, disease, illiteracy, slums, unemployment and inequality. Measured in terms of aggregate growth rates, development has been a great success. But measured in terms of jobs, justice and the elimination of poverty, it has been a failure or only a partial success.
This is the crux of human development which is multidimensional and requires multidisciplinary approach for its achievement.

To conclude, in a logical and significant way – the beneficial role of free-market and the controlled economy, cost of government intervention should be weighed against each other. A ‘typical’ developing country like India should undergo internal process of structural change. (structural adjustments, and transformation) implying removal of institutional rigidities – i.e. institutions should be designed (Eco Policy Pg. 622) by policy makers in such economic planning social cost benefit. A way that they can be adjusted or should develop adaptability to adjust themselves) to accommodate ‘development’ requirements (e.g. a social system – typically that has conservative value which render resistance to modernization ideas is not ‘relevant’ to ‘development’ requirements).

The major economic objectives to be achieved by a rational and pragmatic economic policy are, full employment, high rate of economic growth, reducing income and regional development inequalities and maintaining price stability. Policy instruments and development plans (programmes, projects and strategies) fiscal and monetary policy and legislative controls over prices, wages properties and their rents) should be oriented to rational allocation and utilization of resources for social benefit only. Objective decisions based on the analysis of social cost benefit implications can facilitate achievement of social goals by reducing the divergence between MpnP and MsnP. Functional distribution of income should be achieved by such objective decisions taken by Government. When free market mechanism influencing economic activities is not functioning in the right direction but is creating factor price distortions. Under the circumstances such Governmental fiscal measures as subsidies, taxes are relevant and
appropriate so far as the prices reflect the true opportunity cost of resources which are being used.

The social cost benefit analysis will greatly facilitate policy making for social welfare maximization by rational optimal allocation and utilization of resources. It provides the basis for calculation of social costs of a particular economic function (whether at the hands of government or private individual, or business enterprise) costs in terms of external diseconomies of production e.g. pollution, ecological problems, alchoholism, drug addition etc. These social costs normally exceed private cost – (implying that decisions based solely private calculations will lead to mis-allocation of resources and the resultant deterioration of social welfare moreover real gain accruing to society or made available to the society as a whole (social benefits – MsnPs) rather than solely to a private individual (private property ownership rights) Mpnps) would be more, in case of welfare services (police protection, justice given by judiciary, security provided by the armed forces, medical services provided by public hospitals, women upliftment programmes, literacy and educational programmes, public assets like bridges, schools parks etc. family planning & population control measures).

The overall policy measures based on the social cost benefit analysis should aim at minimizing the divergence between MsnP and MpnP for maximization of social welfare and for putting the economy on the right path of economic development (material prosperity and welfare).

Prof Simon Kuznets defines a country’s economic growth as 'a long term rise in capacity to supply increasingly diverse economic goods to its population, this growing capacity based on advancing technology and the institutional and ideological adjustments that it demands. Thus characteristics of a developed economy are – substained rise in national output , advancing technology providing basis or precondition for
continuous economic growth (a necessary but not sufficient condition) and institutional, attitudinal and ideological adjustments made to realize the potential for growth inherent in new technology (technological innovation must have concomitant social innovation).

The growth process of every developed nation is characterized by;

(a) high rates of growth of per capita output and population
(b) high rates of increase in total factor productivity, especially labour productivity.
(c) High rates of structural transformation of the economy
(d) High rates of social and ideological transformation
(e) High propensity of the economy to reach out to the rest of the world for markets.

Government is the most powerful institution in the set up of an economic system and the prevailing philosophy on which government policies should be based advocates the single fundamental theme that no principle, practice or people should be allowed to take precedence over the wealth and welfare of the nation.

Efficiency and perfect market outcomes do not respect the demands of nation building and nationalist (e.g. public utilities should be protected from the forces of competition – no matter how hard or vast). The approach to regulation and deregulation of market by government should not be abrupt, convulsive and costly in terms of social cost and benefits. Economic well being and social well being are not mutually exclusive growth process is many dimensional and government of a developing economy should be proud of its defiance of any single specific and dominant doctrine – like e.g. U.S. style capitalism, economic laissez-faire or Marxian command economy principles. A democratic welfare State should develop suitable regulation or deregulation strategies in running a non-capitalist market.
economy or in other words (state) interventionist economy. People should be the center of the system (anthropocentrism) and not the rested interest of cigar – chewing capitalist. Government of a welfare state should show resistance to undisciplined democracy and should be cautious in its embrace of the free market. Government should be successful in moderating the extremes of ‘imported’ doctrines in the political defence of a ‘pragmatic’ national interest and not that of unenlightened self-interest. National good should not be sacrificed for the lust of economic and political power (both of which are complementary to each other) change should not be suppressed and initiative penalized and the government policy should free the system from secretive, neo-fascist guerilla arm of the government.

The ‘universal’ principle to be followed by the State in ruling any economy for putting it on the path of progress is “a car runs fast because it has breaks” progress is not possible without governmental operational restraints (e.g. price and quality restrictions, ban on absurd advertising and entry barriers such as licenses and permits).

9.6 DEVELOPMENTAL ECONOMICS & SUSTAINABLE DEVELOPMENT:
D.E. goes beyond (Theoretical Background) and the traditional economics. It encompasses and analyses the social and institutional processes through which certain groups of economic and political elites influence the allocation of scarce productive resources now and in future; either exclusively for their own benefit or for their own benefit plus that of larger population. D.E. is concerned with multiple relationships and is multidimensional. Its main concern however, is with the relationship between politics and economics, with a special emphasis on the role of power in economic decision making for putting the economic and political system on the right path of economic progress i.e. decision making and
planning for achieving the twin and mutually consistent objectives of economic growth viz. development with stability.

D.E. in addition, to its main concern over ‘optimum allocation and utilization and the sustained growth of the existing scarce and idle resources for maximization of social cost – deals with the functioning of economic, social, political and other institutional mechanism (both public and private) necessary for bringing about rapid and large scale ‘improvement’ in the standard and standard of life of the ‘masses’ of poverty stricken, malnourished and illiterate people of the country.

The background for formulating any plan, strategy or policy for longterm development with stability of a less developed country (LDC) is characterized by

(a) imperfect commodity and resource (factors of production) markets.
(b) Because of limited information consumers and producers cannot play their proper role as ‘knowledgeables’ in the less developed economy (LDC)
(c) In the less developed economy (LDC) the classes of the economically backward helpless communities (workers, farmers and consumers) are prevalent and dominant.
(d) Major structural changes take place in the society and the economy leading to ‘disequitebruim’ situations which prevail in product market and factor (resource) market – i.e. prices do not necessarily equate demand and supply.
(e) Economic calculations are dominated by political and social priorities requiring local decision makers to resolve various tribal or ethnic conflicts, or preserve religions and cultural traditions and social customers. At the level of individual citizen of a country – family, clan, religions and/or tribal consideration ... take precedence even
over, the ever dominant private, self-centered (or self interested) utility or profit maximizing calculations.

D.E. as distinct from traditional ‘neo classical economics’ or ‘political economy’ is mainly concerned with the economic, cultural and political requirements for affecting rapid structural and institutional ‘transformations’ of entire society in such a manner as to bring about equitable distribution of the fruits of economic progress to the broadest segments of population of the society.

The issues to which a State of a LDC addresses – on priority basis have economic, political, social and cultural aspects (the economic, political social and cultural ‘value system’).

(a) Individual and national sources of economic development (ED)
(b) beneficiaries of economic growth.
(c) Rapid population growth threatening the process of ED
(d) Extent of unemployment of the resources
(e) Appropriate mix between private and public economic activity.
(f) Impact of foreign aid and investment of foreign capital on productivity and population.
(g) Demographic features of population like rural-urban mobility, literacy
(h) How inflationary and recessionary forces affect stability of prices and employment
(i) Are shortages ‘chronic’ leading to criteria for development.

Economics being a social science, is concerned with human beings. Human relations creating social systems by which human activities are organized to satisfy basic human needs of food, shelter and clothing and non-material wants of education, knowledge and spiritual fulfillment and upliftment. Economists are social scientists faced with a social situation in which human
beings (objects of their study) in the 'ordinary' business of life and their activities are rooted in the social context of Economic Laws can point out 'tendencies' (and not universal truths) of different countries with different cultures at different times. The so called general economic growth models are based on a set of implicit assumptions about human behaviour and economic relationship that may have little or no connection with the realities of developing economic systems. Economic investigations and analysis cannot simply be lifted out of their institutional, social and political context especially when the analyst is dealing with human dilemmas of hunger, poverty, ill health which plague a large sector of world's population.

Ethical or normative value premises are the central features of economic discipline in general and of development economics in particular. The very concepts of E.D. and modernization represent implicit as well as explicit value premises about desirable goals for achieving realization of 'human' potential – such desirable goals (which are not mutually exclusive but interdependent) are –

(a) economic and social equality
(b) elimination of poverty
(c) universal education
(d) rising levels (standards) of life and living
(e) modernization of institutions
(f) political and economic participation of all people in the process of transformation of the society from less developed or underdeveloped stage to a 'developed' or 'advanced' stage of upliftment (progress)
(g) grass root democracy
(h) self-reliant and personal fulfillment.
Moreover, for that matter even the opposite representing opposite values are relevant for economics of development.

Similarity within diversity distinct classification of Developing countries:
- Poor in monetary terms
- Diverse in culture (standard of life)
- Diverse in economic conditions (standard of living)
- Diverse in a social structure (value system)
- Diverse in political structure (fascist, socialist, democratic, laissez-faire neoclassical)
- Lower income and middle income countries
- Problem of national cohesion and administration
- Wide range of ‘natural’ physical or capital resources
- Wide range of ‘human resources’
- Potential for self sufficiency and economic diversity
- No shortage of skills
- Weak bargaining power – (pro-labour and or anti-labour policy)

India =
= Non-oil exporting developing nation
= Large size country
= Historical and colonial background
= Large physical and human resource endowments
= Relative importance and role of public and private sectors have been changing from time to time
= More dependence on the external economic and “political resources”
= Rigidities in the institutional structure
= Problems of administrative control national cohesion and regional imbalances, low per capita income
= Inequality in the distribution of income
The basic problems of Indian underdeveloped economy are -
=Reduction of poverty, inequality and unemployment
=Provision of maximum (highest) levels of education, health, housing and food to every citizen
=Broadening of social and economic opportunities
=Forgoing of a ‘cohesive’ nation – state against ‘chronic’ common problems
- wide spread and ‘chronic’ absolute’ poverty (70% of population living ‘below’ poverty (subsistence) line.
=High and rising levels of unemployment and underemployment.
=Wide and growing disparities in the distribution of income.
=Low and stagnating levels of agricultural productivity
=Sizeable imbalance between urban and rural levels of living (pattern of living and little liaison between urban and rural population.
=Low generation of employment opportunities (self-employment)
=Antiquated and in appropriate Educational and health systems
=Severe b.o.p. and international debit problem
=Substantial and increasing dependence on foreign and inappropriate technologies institutions and value systems.
The above development problems are critical for the governments of less developing economics (LDCs)
- Whatever be the ‘physical’ demographic historical cultural and structural characteristics economic and social ‘dilemmas’ of development are the same for all the LDCs.
Advantageous situation for development against India in LDCs is characterized by –
1. Large geographical size
2. Diverse resource endowment
3. Large potential market
4. State initiative plans for solving the problems of administrative control, national cohesion and regional imbalances and disparities.

In view of 'identity' crisis Colonial powers had a dramatic and long-lasting impact on the economic, social and political institutional structures. The colonial powers introduced three powerful and tradition-shattering ideas:

(a) private property
(b) personal taxation
(c) the requirement that taxes be paid in money rather than in kind.

These ideas eroded the autonomy.

Municipal Corporate Body, local communities and people exposed to many forms of potential 'exploitation' (by private bodies, individual citizens and by persons with political power), the colonial heritages and the diverse cultural traditions of the indigenous people have combined to create a peculiar institutional and social pattern which provides the base or background for economic development.

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10.1 Formulating the hypothesis and testing the hypothesis are the two important aspects of any research work. Finally a research student is required to arrive at some conclusion – Whether hypothesis stated earlier is proved or disproved. In between these two end points, the whole research work is included. In this research work, the main task of the researcher is to test the hypothesis by using some well set research methodology. The methodology used in this research work, is the same, which is most commonly used in research in any subject in social sciences.

The study has been intended to address the huge environmental, social and economic issues that the mother earth is faced with. The environment and development are the two sides of the same coin. However their integration for the Sustainable development is very relevant. The study aims at balancing the conflicting demands of the natural environment, social equity, human well-being and economic development with scares resources by careful planning to avoid any cost and time overruns.

In order to carry out a systematic study with reference to the objectives enumerated earlier, following hypothesis was formulated which is based on the study of the background literature, discussions with experts and professional experiences of the researcher.
10.2 The analysis of the primary and secondary data is presented in Chapter No. 8 when such information is assessed shall enable to arrive at, some definite conclusions and answer some basic issues;

1. Whether the powers delegated to municipal corporations, are adequate to frame and implement the plans they have prepared for sustainable development of the city whose aim, is at the same time multidimensional development also.

2. Whether resources available with them are adequate? Is funds raising ability, and funds, raising authority of these corporations (twin cities - Pune Municipal Corporation and Pimpri Chinchwad Municipal Corporation) is adequate considering the growing and changing needs of society residents of the cities.

3. Whether voters, and their representatives (corporators) really possess co-operative attitude irrespective of their political banners?

4. How far social institutions take keen interest in playing positive role, making meaningful contribution to sustainable development of the city. Whether they just criticise and oppose the plans for protecting their own interests, instead of protecting interests of all habitants of the city?

5. Whether there is element of exaggeration, overconfidence while setting the objectives for multidimentional growth of the city? Just for the sake of publicity and stability of the local government.

6. Whether these two corporations have succeeded in maintaining the regular speed of the developmental process.

7. Quality of the leadership available and the quality of local residents - civilians, acted as a speed breaker or boosters for economic, social, cultural, growth of the city.
In order to tackle the above mentioned issues in meaningful way questionnaires were issued to many groups in the society as well as to corporators and some eminent personalities to know their views and reactions. Reference of this point is already made in earlier pages. Some limitations were experienced by the candidate. He was required to run hurdles race. There was no disagreement amongst almost all. The respondents stressed the need for sustainable cum multidimensional development as early as possible, so that basic requirements of the masses will be satisfied. A common feeling will be developed. All like to live comfortably, easily in a livable city, living under pollution free conditions, enjoying peaceful and safe life.

Many of these expectations have not been completely fulfilled by these two corporations, even after 30 years in case of Pimpri Chinchwad and 50 years Pune Municipal Corporation. It is also true that all the expectations of all the citizens cannot be fulfilled at one time. Expectations change with the change in life style and changes in living standards.

Limitations:

• Resources are inadequate,
• Administrative machinery is insufficient,
• Interests of different political parties are not uniform,
• All the individual and institutional tax payers are not honest, regular and sincere
• People staying in slum areas are indifferent,
• Attitudes of the people are not totally positive (strong opposition by different groups for compulsory use of helmets is the latest example)

Above are the common constraints of all municipal corporations, nagar parishads, local bodies required to face. These hurdles slower the
speed of progress. The obstacles widen the gap between ‘objectives set’ and objectives attained so far.

10.3 It is evident from preliminary observations made, and secondary data collected. Everybody ducks under excuses – blames others. However the efforts made so far by these two corporations are not wasteful efforts or misdirected efforts. Plans on paper are ideal, though not in practice, at the stage of implementation some delays have been caused. However, irrespective of political instability, opposition by many groups some schemes have been successfully implemented and citizens are enjoying the results. Actually the list is not very exhaustive considering the time span. The following are some glaring illustrations.

1. Road widening schemes
2. Water filtration plants
3. Electrification scheme; replacement of old system by new scheme
5. Balewadi sports complex, Information Technology Centre Hinjewadi, New Air Port Construction Scheme at Chakan
6. Drainage and water supply facilities to newly developed and developing areas Warje Malwadi, Anandnagar, Balajinaar etc.
7. Drinking water, sanitation, drainage facilities for slum areas.
8. Starting new bus routes, purchasing of new buses.

All these schemes by Municipal Corporations Pune and Pimpri Chinchwad have contributed in development of these two cities as trading, commercial, industrial, cultural, centres as a result of formation of new partnerships with world bank and with some local institutions – Vanarai, Sant Gadge Maharaj Pratishthan, Rotary Club Pune, Nirdhar, Mahratta Chamber of Commerce, Industries & Agriculture (MCCIA). These are the
signs of multi dimensional sustainable development of these two cities. No body can deny this progress and achievements. These are the part and parcel of success story.

One must appreciate the efforts without reservations. Only critising and opposing the schemes is not enough. If all communities, social groups, public and private institutions change their roles – giving practical support decide to play role as active partner, change their attitudes from negative to positive line. Continuous opposition by corporators sitting on opposite benches, should think over the matter.

Sometimes adamant approaches, by Municipal authorities, the ruling and the opposition parties hampers the progress. Schemes which are not economically feasible, consuming lot of resources and time, not protecting interests of masses should be given up. Due weightage should be given to meaningful and fruitful suggestions made by senior citizens, experienced persons without making as prestige issue. This would strengthen the base of new partnership. If the foundation of new partnership is weak, the progress of the city cannot be possible at regular speed.

All the earlier quoted illustrations (the developmental schemes) the results achieved so far, have enabled the research student to arrive at the conclusion viz hypothesis stated earlier is proved. New partnerships within and outside these two cities are playing and so far they have played a significant role. The issue of controlling non sustainable development is equally important and it can be resolved by demanding voluntary cooperation from various cross sections. Some experimentation is also required in the form of heavy penalties and punishments, for those non observing traffic rules, erecting unauthorised sheds, expansion of hotel and restaurants, people throwing garbage on roads, making contribution to noise and water air pollution. Though it is not the only remedy, whenever and
wherever necessary it is to be used for maintaining law and order and disciplined behaviour. Sometimes forced and sometimes its voluntary acceptance, fetches good results. For the speedy achievement of sustainable development goal, the use of carrot and stick theory is also important. Its significance in the development process cannot be denied.

10.4 The hypothesis which is based on studies undertaken by a research student by interacting with different stakeholders like Corporators/Politicians, Administrators, Citizens, Environmentalists, NGOs, Social Workers, and Industrialists, as it has many dimensions in the nature of political, social, cultural, and economical, has been tested and proved.

There are various stakeholders as referred above and for sustainable development of any nature viz. economical, cultural, political, social has to have the involvement of all the partners. The success of sustainable development cannot be achieved or maintained unless all concerned play their role continuously and positively.

The success can be achieved only if all the stakeholders participate and are allowed to participate in the decision making, concerning environment and development. The National and local governments must have strong willingness and support for such initiatives. Imparting awareness among the stakeholders and their capacity building are also important components.

Globally, in order to meet the challenges of environment and development, States have to establish new global partnership. This partnership commits, all stakeholder, to engage in a continuous and constructive dialogue to achieve a more efficient and equitable growth of world economy.
It can be observed that lot of harmony between various stakeholders is required to achieve
(a) More responsible use of resources
(b) March towards quality of life
(c) Eco balancing and depollution of cities
(d) More livable cities
(e) Overall balancing between Conservation of resources and convenience.

The above is possible by adopting
- Good governance and creation of adequately regulated sound financial framework
- Legal and regulatory structure to protect property rights, enforce contracts and stimulate competitive markets
- Equitable health, education and social services and
- Quality infrastructure and public services
- Stringent execution of norms without political interference.

It is a well established fact that sustainable development, has many dimensions as explained above and influenced by political, social, cultural and economical factors having involvement of various stakeholders. The non sustainable factors which take place simultaneously inspite of best rules and regulations administered, for which higher direct and indirect cost overruns are incurred. Similarly, new partnerships are to be created by involving various stakeholders.

It can be concluded from the interviews and surveys carried out through the interviews and questionnaires, as summarized in chapter 8 the Hypothesis of the Research work namely "The dreams of 'sustainable development' of cities can be materialised only through 'formatic of new
partnerships’ and at the same time curtailing the growth of non-sustainable development which takes place simultaneously, by paying higher, direct and indirect costs”, has been tested and has been proved.
PART III

CHAPTER 11

FINDINGS, RECOMMENDATIONS AND SUGGESTIONS:

Background:
The living world on this earth today stands at a critical and defining moment in its history and for its future. It is the human race that is mostly responsible for the ever-deteriorating environment we find ourselves surrounded with. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the eco-systems on which we depend for our well-being.

There are numerous factors what we find today around us. The important ones being the uneven distribution of resources, strangely, many a times inversely proportional to the population, disparities in energy production and consumption and the socio-economic compulsions in the developing nations for their survival that are threatening to the sustainability of the resources and environment of this earth.

However, it is not only the developing world that is to be blamed for this situation but it is also the developed or industrialised nations who are equally answerable for the lifestyles and economic superiority that make the sustainable development of the developing world more and more a difficult proposition.
The subject under research work namely "The Critical Study of Three Dimensional Theory of Sustainable Cities with reference to Pune and Pimpri-Chinchwad Municipal Area" has many facets. The conclusions, recommendations and suggestions have been made out based on the interviews, feedback from the questionnaire, bibliographies, statistical data and paper-clippings.

While conducting the research work, the stakeholders covered for the purpose of proving or disproving the hypothesis are:

1. The citizens from cross section of society
2. Corporators i.e. local representatives including Mayors
3. Bureaucrats and other authorities from Municipal Corporations, RTO, Electricity Board, Telephone authorities, MPCB
4. Industrial and Business units
5. Non-Government organisations
6. Educational Institutions

The questionnaires were suitably drafted and forwarded. The response to the questionnaire was lukewarm though appreciating the subject. The overall experience of the research student was not discouraging. Some respondents have shown keen interest and have given exhaustive and detailed replies.

11.1 THE HYPOTHESIS OF THE RESEARCH WORK:

The study has been intended to address the huge environmental, social and economic problems that the mother earth is faced with. The environment and development are the two sides of the same coin. However their integration for the Sustainable development is very relevant. The study aims at balancing the conflicting demands of the natural environment, social equity, human well-being and economic development with scarce resources by careful planning to avoid any cost and time overruns.
In order to carry out a systematic study with reference to the objectives enumerated earlier, following hypothesis was formulated which is based on the study of the background literature, discussions with experts and professional experiences of the researcher.

'The dreams of 'sustainable development' of cities can be materialised only through 'formation of new partnerships' and at the same time curtailing the growth of non-sustainable development which takes place simultaneously, by paying higher, direct and indirect costs'.

This hypothesis is based on some preliminary studies undertaken by a research student by interacting with different stakeholders like Corporators, Administrators, Citizens, Environmentalists, NGOs, and Industrialists, since it has many dimensions like political, social, cultural, economical and financial.

As stated in the hypothesis, the sustainable development of cities can be achieved by:

11.2 FORMATION OF NEW PARTNERSHIPS

There are various stakeholders as referred above and for sustainable development of any nature viz. economical, cultural, political, social has to have the involvement of all the partners. The success of sustainable development cannot be achieved or maintained unless all concerned play their role continuously and positively.

For instance: Citizens squads come to the rescue of Pune police:

The police have found a novel way of fighting crime – a special security squad comprising citizens has been formed to tackle the menace. And more such squads.
The squads would be involved in regular patrolling for two to four hours daily, especially at night hours. They will be trained in nabbing criminals, said Deputy Commissioner of Police (Zone II).

The scheme was based on the model of the Gram Samrakshak Dal, which has successfully been introduced in many rural parts of the state. The success can be achieved only if all the stakeholders participate and are allowed to participate in the decision making, concerning environment and development. The National, intermediate and local governments must have strong willingness and support for such initiatives. Imparting awareness among the stakeholders and their capacity building are also important components.

Globally, in order to meet the challenges of environment and development, States have to decide to establish new global partnerships. This partnership commits all states, to engage in a continuous and constructive dialogue to achieve a more efficient and equitable growth of world economy.

11.3 CURTAILING THE GROWTH OF NON SUSTAINABLE DEVELOPMENT – INSTANCES:
Curtailing the growth of non sustainable development, which takes place simultaneously, by paying higher direct and indirect cost. Instances can be referred.

(i) Unauthorised construction – high-rise building, Mar Pune Cantonment Board landscape resulting in traffic congestion

(ii) Back to square one for hawkers at Swargate – The civic administration had shifted all the stalls which were causing congestion but because of politicians again same problem.

(iii) Clean Pune, Beautiful Pune, Green Pune – still a dream

(iv) Breaking up of traffic rules – claims to be a fundamental right
(v) Difficulties for approach road for fire brigade
(vi) Public Criticism of PMC administration for road divider
(vii) Use of mobile phones while driving
(viii) Power Projects overruns hits the State exchequer which has severe impact on cost
(ix) Spate of accidents due to lack in highway safety.

11.4 ROLE AND IMPACT OF POLITICAL, BUREAUCRACY, SOCIAL, CULTURAL, AND ECONOMICAL FACTORS:
Again by taking the support of the interviews and other secondary data;

1. The member of the parliament trying to place the City on the Centre’s priority list which is a positive indication

2. Dr. Raghunath Mashelkar, Director General, CSIR New Delhi According to him every individual has a responsibility to contribute in Sustainable Development. He has quoted examples of China and Indonesia.

3. - It is indeed a serious matter that the corporators who are stakeholders showing indifference in the development plan of the city
   - PMC ignores directives explained in the draft plan.
   - Use of footpaths for stocking of require materials by Corporations
   - PMCs sewage plant collapses – Second mishap at sight in three months
   - PMC violating its own development, control rules by building multistoried parking complex
   - PCMC project buried under the heap of garbage over its solid waste management Scheme
   - Employees of PCMC oppose privatisation of certain services Corporators making a statement that Dr. Sengaonkar, Dy
Commissioner of Police is a "Ghashiram Kotwal" of Pune, a social Reformer.

- Deterioration of a quality of corporators is a matter of concern

11.5 POSITIVE CONTRIBUTIONS:

- Recommendation for reduction in pollution by use of clean fuel
- Commissioner PMC assures the retention of beauty of Balgandharva Rangmandir – as old dama theater as a heritage point.
- Approval for development of roads on Canal by Govt. of Maharashtra for reducing traffic congestion
- Implementation of no tolerance zone on J M Road by charging heavy penalty to traffic defaulters.
- Discussion on development plan by various political parties by Mr. Mohan Dharia
- Introduction of mobile pollution checking centres
- Rain water harvesting to be made mandatory
- Pune is the only second clean city on the Gadgebaba Cleanliness Programme of Govt. of Maharashtra.
- PCMC forms special force for taking actions against defaulters for encroachment for creating garbage
- Adv. Mrs. Vandana Chavan, former Mayor of Pune suggests planned development for the growth of city
- Opportunity for methodical development of city under City Development Fund of Central Govt. pleads Mrs. Deepti Choudhary, Mayor of Pune

Observations:

1. Bad planning on the part of Corporations
2. Negligence and indifference on the part of citizens
3. No strict action / no will to execute rules

11.6 ROLE OF OTHER AGENCIES:

Positive and negative contributions –

(i) Identification of hills – urban heritage – protest by Conservation Committee

- Protest for the development plan of PMC on the proposed dereservation on hill tops and slopes by environmental groups

- Problems of Pune – Entire city is under encroachment – roads, hills, canals and development of slums

(ii) Road Safety Programme implementation and the activity report

(iii) Problems of Pune Narrow Roads – Increase in number of Vehicles – Legal and Administrative Hassels

(iv) PMC Commissioner says city with a plan but no planners

(v) - The residents of Erandwane stall illegal construction on open plot

- Slum residents exhibit model house at Hadapsar

- Civic Initiatives by residents of Koregaon Park for Cleanliness

(vi) - Penalty to the former Environmental Minister Mr. Kamalnath by the Court

- Demand for setting up of for transport safety development of Corporation

- Union Minister of State for Finance Mr. G. G. Ramchandran has to resign for accepting by bribe by his Private Secretary
- Introduction of new syllabus for environment from standard III\textsuperscript{rd} under the directives of the Supreme Court

(vii) MSEB facilities threaten public safety

(viii) Wrong Property Tax Bills amounting to 2.25 lac results into inconvenience and huge loss to the Corporation

It can be seen from the above that lot of harmony between various stakeholders is required to achieve

(f) More responsible use of resources

(g) March towards quality of life

(h) Eco balancing and depollution of cities

(i) More livable cities

(j) Overall balancing between Conservation of resources and convenience.

The above is possible by adopting

- Good governance and creation of adequately regulated sound financial framework
- Legal and regulatory structure to protect property rights, enforce contracts and stimulate competitive markets
- Equitable health, education and social services and
- Quality infrastructure and public services
- Stringent execution of norms without political interference.

It is a well established fact that for any sustainable development, it has many dimensions as explained above and influenced by political, social, cultural and economical factors having involvement of various stakeholders. The non sustainable factors which take place simultaneously as briefed above inspite of best rules and regulations administered, for which higher direct
and indirect cost overruns are incurred. Similarly, new partnerships are to be created by involving various stakeholders.

**Concluding Remarks:**

1. Every research work concludes logically and systematically when researcher gives some concrete and useful suggestions in order to find some break through out of existing problem. Indirectly it becomes his moral obligation, at this stage of completion of research project. The purpose of including this chapter at the end of this ‘research model’ is the same. The earlier chapter was devoted for making some observations and findings regarding the existing problems.

2. As it has been stated earlier, the research student was required to face many problems (run a hurdles race) at the stage of collection of data from citizens, corporators, industrial units and municipal authorities. The number of respondents was not satisfactory and as per the expectations. It has been clearly mentioned in earlier chapter (i.e. chapter No. III). The research student, contacted many people, social institutions, local representatives, and authorities. Some of them were negligent and as such failed in giving responses to questionnaires issued. Those who did not realise the significance of this sensitive issue of ‘Sustainable Development of the city’ gave halfhearted and incomplete replies to the questionnaire. Some respondents shown keen interest and have given exhaustive and detail replies to ‘set of questions’ issued to them. However the overall experience of the research student was not discouraging.

3. The suggestions and recommendations given by research student, are based on the replies given by some responsible citizens, corporators, municipal authorities. The respondents who are really concerned about the ‘future of this metropolitan twin cities’ (referred as the thesis as
corporations) have expressed their views and reactions without reservations. Their ‘free minded’ or open-minded reactions, in the questionnaires and through personal interviews, have made a major contribution in completion of research work undertaken by the candidate. Suggestions and recommendations given are in the form of summary of useful discussions with some eminent personalities staying for many years in this ‘metropolitan twin city, who are well aware, and alert about the interests of masses. (i.e. welfare of society as a whole). The issue of sustainable development is important considering the better living conditions for future generation. Overcrowding and undisciplined growth of the metropolitan cities have generated problem of sustainable development. It is a problem, which requires immediate attention, before it becomes more and more aggravated and serious. If proper care is not taken, the existing generation would commit a sin, by making living conditions more and more worse, than they are today. The future generation will definitely not excuse us if we further continue the process of rash, irresponsible, politics oriented and careless decision making. The present position in this context is susceptible. There are many gaps and loopholes in the existing system, which affects the planning and implementation aspects of sustainable development. It is hoped that if suggestions given are taken seriously by the concerned groups in the society it will change the fate of future generation. For the sake of convenience, the research student has given the suggestions considering the involvement of concerned stakeholders, viz:

(1) Citizens
(2) Corporators - local representatives
(3) Municipal and other authorities
(4) Industrial and business units.
These are the important segments, which together form a society. ‘Sustainable development’ is in reality a herculean task, and as such, it is to be looked upon as joint responsibility, instead of responsibility of municipal corporations only. The problem can be resolved only through formation of “new partnership”, and sections in the society, acting as active partners neither as silent partner or minor partner. Hence, while giving suggestions, the research student has made an attempt to cover all sections of the society simultaneously without making any discrimination.

A progressive society is a cohesive symbiosis of the stakeholders: the citizens, their representatives, corporations and commercial units. All these factors wish to live and prosper in clean environment. Some of them are trying at their level to better the surrounding conditions.

What is needed today is to create a sense of commitment in each unit belonging to these stakeholders:

The individuals
Families, Communities
Youth Groups, schools, political parties, trade unions, industrial houses, mahila mandals ward offices and corporations are to name a few. The effectiveness of such a movement can be increased if

- Each stakeholder knows exactly what is expected of him/it
- Each stakeholder is aware of the consequences it has to face if certain things are not observed
- Each stakeholder knows the benefits it would enjoy if they comply, i.e. immediate reward
- Each stakeholder knows to what greater goal they are contributing to

During the research, the research student observed that some of the stakeholders are making efforts independently. However, these are not
living independently, as their existence is dependent on other systems, their symphonic efforts are necessary. Here is the need of forming of partnerships.

Each issue of sustainable development affects more than one stakeholders. Be it cleanliness/waste disposal, planning of city/approval of plans, public transport system, it involves a combination of corporation-citizens, industry-corporation-citizens etc. In order to solve any of these issues, involvement of all the respective stakeholders is necessary. We have experienced the achievements where such partnerships have yielded fruit.

To illustrate a few:

- The clean school award initiated by late Shri Shantanurao Kirloskar
- Forestation taken up in the PCMC industrial area
- Nala Parks in Pune (Times of India – Pune Plus – 24.4.2004)

We have also experienced some cases where the lack of proper dialogue and involvement has resulted into waste of precious public money and time. To illustrate a few:

- Indecision about Pune’s public transport
- Delay in road widening
- Reservation and dereservation of some plots

The important assumption of these partnership has to be ‘public good’. They should work on minimum common agenda. For example, filing of PILs, finalising of development plans etc.

11.7 RECOMMENDATIONS & SUGGESTIONS:

It is felt necessary to give recommendations and suggestions stakeholderwise:

I. Govt. and other authorities including political leaders:
1. There is a need to create awareness, as to protection of environment since the childhood, through schools and colleges, who can organise programs, arrange trips, essay competitions, right from the primary level education. During vacations they can arrange visits and impart useful knowledge about the surrounding areas – hills, rivers, forests, gardens, water resources, animals etc., instead of just arranging classroom teaching which becomes monotonous work in learning and teaching process. It is necessary to develop sense of responsibility – protection from pollution since the school days, because they can pick up the knowledge at a faster speed. (Ref: Sakal, local newspaper dated 3rd March 2003 – Page No.3).

The schools could be models of eco balanced systems. Right from proper use of paper, water, time, the children would be exposed to ‘correct’ and ‘incorrect’ practices thus demonstration. (SLK Award)

Award for best environmentally arranged/balanced school and NGP Partnership.

2. As can be easily noticed, unauthorised construction work, has become very ‘common phenomenon’. Hotels, restaurants, flat owners, owners of bungalows, make unauthorised extension of existing units, without the fear of local authorities. Unofficial constructions later-on become authorised after paying the ‘penalty’. As pointed out by one of the respondent, Corporators and local leaders bring pressures make use of ‘paperweights’ in order to regularise the illegal activities, which causes harm to welfare of masses. Unauthorised parking in no parking zones, also create disturbances to traffic. Police department, municipal authorities charge minor penalty. After taking ‘demolishing work’ on the very next day hotels and restaurants
reconstruct the sheds and shelters. It is suggested to avoid such instances, heavy penalty to defaulters should be charged.

3. **Role of Local authority**:

They should enter into a dialogue with citizens, business and industrial units through consultation and consensus building for formulating the best strategies. Representatives of local associations/Chambers be encouraged to establish process to increase the exchange of information, experience and mutual technical assistance. Government should identify and implement on appropriate mix of economic instruments and measures such as laws, registrations and standards in consultations with business and industry, in turn who should incorporate cleaner production policies in their operations and investments.

**Presentation of Budget and relevant information**:

By 74th amendment, the Municipal Bodies have been made more responsible in their function and exercise of the powers. The Chief Officer shall each year present budget before the General Body of the Corporation. However, it has been seen from the budgets presented by the Municipal Commissioners of PMC and PCMC that they do not provide actual v/s budget allocations on specific development plans. The cost overrun including a time is not clear for making conclusions in suggestions. The cost overrun are considered only on inflation which is not completely correct. The budget should provide the information and individual items of expenditure and reasons for deviations.

4. **Promoting education, public awareness and training to all stakeholders:**
Efforts should focus on reducing high illiteracy level and redressing a lack of basic education. The formal education, public awareness and training should be recognised as a process by which human beings and societies can reach the fullest potential.

5. **Vehicular Traffic:**

Vehicular traffic creates lot of pollution. It is necessary to make it mandatory to convert vehicles from Petrol/Diesel driven to CNG. This has been implemented in New Delhi and there has been lot of improvement in pollution.

Similarly, the number of vehicles in Pune city alone are more than 14 lac. It is necessary to control the registration and ban old vehicles having more than life of 15 years.

Pollution control norms / standard be checked periodically and stringently. Similarly manufacturers of such vehicles must abide by the Rules and Regulations. Very effective public transport system requires to be developed like in European countries.

6. **Effective Implementation of Law:**

A mechanism should be developed to ensure implementation of rules & regulations concerning environment, conservation of natural resources. The clean administration will help in better implementation.

7. **Political Interference:**

The political leaders should restrict their role only in policy making. Since they are local representatives, they should conduct programs for bringing awareness about, the various rules and regulations for the betterment of the society. No cheap popular scheme be announced without considering economic, social implications.
8. An Urban Management Institute could be set up to train politician and bureaucrats for implementation of good governance

9. Urbanisation and Growth of slums:
You can see from the statistical data provided in the earlier chapter that the slums in cities like Pune, Pimpri-Chinchwad and Mumbai have grown substantially due to industrialisation and for seeking employment, the population from the mofussil area have shifted to these cities. However due to inadequate housing and other problems population in slum has been 30 to 35%. The growth of slums have to be curtailed by disbursement of industries and creating more employment in villages.

10 Judicial machinery:
In democracy judiciary also has an important role to play, to ensure avoidance of social, economical, political problems by quick disposal of the cases. Total reform is required in the judicial system. We have many outdated laws which requires to be deleted with the changing time. Fortunately every citizen in India has respect and faith in judicial system hence the judiciary can play an important role in the Sustainable Development by timely delivery of judgements and giving directives.

11. Good Governance:
It is necessary to implement transparency and right to information by implementing good governance at all levels by proper education, training and bringing awareness of both rights and duties as contemplated in the Constitution of India.

12. Formation of wardwise Citizen Committees
Citizen Committee in each Ward could be formed which will be representative of Senior Citizens, youth, women, local corporator but
are the residents of the said area. The Committee can act as a monitoring as well advisory body.

13. **Clean River Project:**
Since Mula, Mutha and Pawana rivers are very important, attractive for tourism, but however, due to pollution these rivers have not remained as clean rivers. They have created many health hazardous problems, it is necessary to take up an independent project to clean the river which will not only improve the health, public transport, and also an attractive destination.

14. **Compulsory Tree Plantation / replantation and relocation:**
It is necessary to make provisions for compulsory tree plantation and also re-plantation and re-location whenever permissions are granted for constructions whether it is domestic or industry.

II. **Citizens And NGOs:**
1. **Action for involvement of Women:**
   Establishment of plans to increase involvement of women as decision makers, planners, managers for sustainable development, who basically influence on social and cultural aspects of society. In order to achieve the same empowerment of woman is essential.

2. **Children and Youth:**
   Youth comprises nearly 30% of the world’s population. The involvement of Youth in decision making regarding protection of environment and development will encourage in supporting the cause. It is necessary to establish procedures allowing them for consultation and possible participation.

3. **Role of Non-Governmental Organisations:**
   NGOs play a vital role in the shaping and implementation of participating democracy. Government should promote and allow a
participation of NGOs in the conception, establishment, revalidation of official mechanisms for Sustainable Development. In deserving cases they should be given the responsibility to implement with defined accountability.

4. **Conservation of resources:**

The resources available are depleting gradually. It is necessary to implement rules and regulations to conserve natural resources and industries, individuals and NGOs should be encouraged by offering tax incentives. Penal provisions should be enforced strictly.

5. **Growth of Population:**

The population in the country has been growing uncontrolled, Since it is sensitive issue, none of the political leaders are interested to take lead in family planning. However, the time has come that all the political parties should come together and take a decision and initiate implementation of family planning.

**III. Industry and business houses:**

No doubt, without economic development and creation of wealth the Sustainable Development shall have limitations. However, industry should ensure avoiding pollution by discharging hazardous waste in to river without treatment, which is dangerous to health. Similarly, eco friendly product should be developed by undertaking research and development work. Industry as a stakeholders has equal social responsibility to safeguard social and economical problems. They should going for Clearance Technologies, ISO 54000 Certifications etc.

With the above broad suggestions which may assure improvement in environment, eradication of poverty, assurance of peaceful and secured life, removal of income inequalities, Involvement of all
stakeholders is necessary for achieving sustainable development. The probable solutions after discussing in the entirety are:

1. Good Urban Planning and Strategic Initiatives
2. Municipality-Business Academia – People Partnership
3. Good Governance
4. Human Resources and Urban Poverty Alleviation
5. Finance and Funding for Sustainable Urban Development
6. Shelter and Desquatterisation
7. Reinventing Mobility
8. Ecobalancing and Depulluting the Cities
9. Solid Waste Management

**11.8 RESEARCH CONTRIBUTION TO KNOWLEDGE:**

As mentioned by the research student in his opening remarks the present research work is expected to make some important contribution to the existing theories of economic development. In the opinion of the research student new yardsticks for measuring the performance, eradication of poverty, upliftment of living standards could be used as indicated below:

1. Smooth and safe transport facilities
2. Providing clean drinking water in all the seasons
3. Supply of electricity at regular voltage
4. Primary education and medical services
5. Maintaining, smoke and dust free atmosphere
6. Assurance of fearless, safe and secured life.

Clean cities and clean administration of cities, are no abnormal expectations of any citizen. In this research attempt has been made to elaborate in detail these new ideas, contributing to sustainable development. Therefore this research is useful, as it throws some light and gives direction to local authorities and citizens.---