

## CHAPTER 6

# Some Other Aspects of Well-Being

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Societies, cultures and nations have often been evaluated on the basis of how they have been treating their elderly, the children, the disabled and the deprived in course of their development. This is all the more relevant for developing countries that are yet to complete their demographic transition and where the number of people in each of these population segments is likely to be quite large. In multi-cultural, multi-religious, linguistically and ethnically pluralistic societies an additional consideration has been the well-being of the minorities and the excluded. In the human development framework, the focus, particularly on variables capturing educational, health and demographic attainments/deprivation may, perhaps, make it unnecessary to look at development outcomes for each of these population segments separately. This is because, the strategies to improve outcomes on the educational and health dimension of human well-being are also the means to sustain an improvement in overall attainments of these population segments. However, indicators capturing absolute or relative attainments at an individual as well as the collective social level for some of these population segments may still be required, particularly, if there are significant gaps between the attainments of these segments and the rest of the population. Such specific indicators may be important for evaluating the qualitative aspect of the process of social change, more so for determining the

policy framework and public interventions for hastening the process towards attaining the socially desired ends.

Besides the social context, the physical environment also has a direct bearing on the well-being of individuals. At the same time, the development process, as it unfolds, impacts the physical environment, one way or the other, almost continuously. It is only natural then that appropriate environmental indicators are also included in any assessment of human well-being and the process of development.



# Elderly

## Magnitude and Regional Pattern

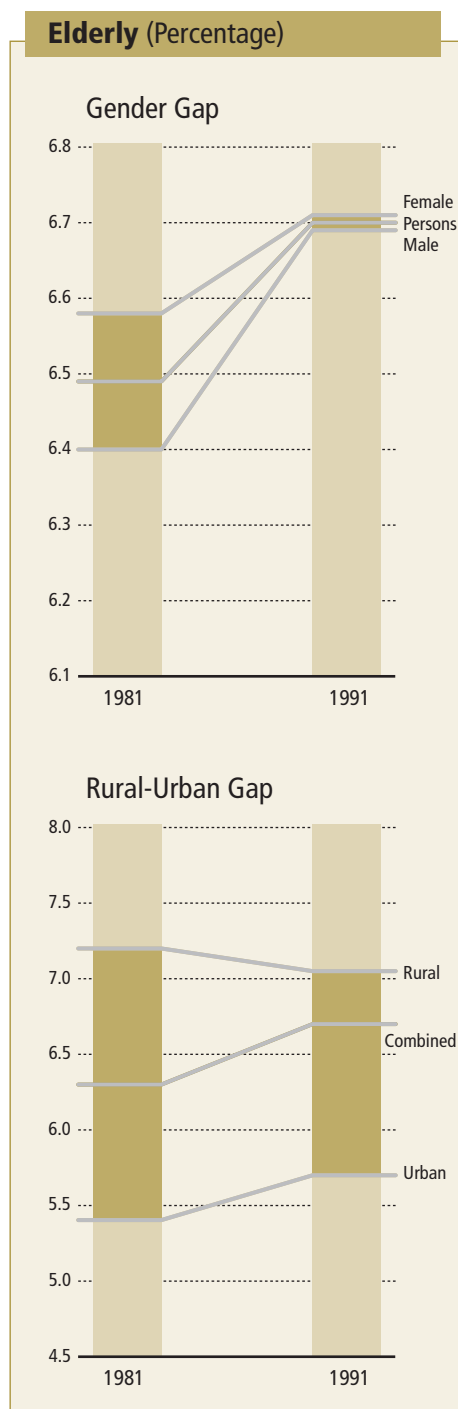
India has the second largest number of elderly persons after China. In a number of countries, as well as in most international fora, an elderly is a person in the age group 65 years and above. However, in India elderly constitutes persons in the age group 60 years and above. There were about 43 million elderly, comprising 6.5 per cent of the population in 1981, 57 million or 6.7 per cent of population in 1991. The Technical Group on Population Projections, set-up by the Planning Commission, had projected the number of elderly to be around 113 million accounting for nearly 9 per cent of the population in 2016.

The proportion of elderly to the total population in rural areas is higher than that in urban areas for the Census years 1981 and 1991 for which data has been presented in the Statistical Appendix. However, the proportion of urban elderly increased, from 5.37 per cent to 5.70 per cent between 1981 and 1991, while in rural areas it has shown a decline from 7.23 per cent to 7.04 per cent. Overall and for urban areas, the proportion of elderly females has been marginally higher than that of males for both the years, but the reverse is true in case of rural areas.

At State level, the proportion of elderly to total population is the highest in Kerala. In general, the share of elderly in the population is higher in the Southern States and relatively lower in the Eastern and North-Eastern region. It is also higher in Punjab, Haryana and Himachal Pradesh, which are relatively better off States. This is on expected lines as some of these States have done well on a number of socio-economic indicators and have also been successful in bringing down their population growth rates. Surprisingly, the proportion of elderly to total population is also high in Orissa, which is among the poorest States in the country. The regional pattern is more or less similar for both rural and urban areas.

## Issues and Concerns

Until a few decades ago, the issue of the elderly was not in the forefront of the development agenda in the country. High birth rates accompanied by high death rates kept the proportion of India's elderly at low levels. At the same time, the traditional family structure including the prevalence of joint family system and the significant role of the elderly in decision making at household level ensured that most of the elderly in the society were looked after by the members of their respective families. Since the 1960s, the proportion of the elderly has increased due to a steady decline in mortality rates and consequent improvement in life expectancy, as well as due to decline in the fertility rates, which reinforces aging of the population. While technological advancements and improvement in health services is reducing death rate among the elderly, there is a considerable change in the physical and socio-economic circumstances of the older people with the transformation of traditional joint family system into nuclear families. The gradual marginalisation of the elderly in the decision making process in an average family and the break down of the family as a traditional social unit that took care of the elderly, sick, widows and orphans has brought forth problems of the elderly in the society. It is also important to recognise that



Women surviving their spouses are likely to live about 6.5 years as widows. At present, this is one-tenth of the female life expectancy at birth.

with the rising number of the old persons and their changing socio-economic and physical context, the proportion of the destitute among them may also, perhaps, be rising. Unfortunately, despite destitution being a critical social dimension of the problem of aging, the database on it is quite inadequate at present.

### Elderly Widows

An aspect of the aging problem, on which some data is available relates to the widows among the elderly females. The number of widows among the elderly is about three and a half times more than the number of widowers. While the percentage of widowers among the elderly males was about 15 per cent, the widows among the elderly females were as high as 54 per cent as per the 1991 Census. More importantly at present, on an average, women of age 60 years are expected to live 1.8 years longer than males. This, coupled with the average age difference between men and women at the time of marriage, results in a situation where women surviving their spouses are likely to live about 6.5 years as widows. This is about one-tenth of the prevalent female life expectancy at birth and, more importantly, about 40 per cent of life expectancy of an elderly woman in the country. Thus, the time spent by the elderly women as a widow is considerable. The women in the States of Karnataka, Kerala, Maharashtra and West Bengal are likely to spend more years as widows than in other States, as differences in the male-female marriage age in these States are much larger.

### Old-Age Dependency Ratio

The old age dependency ratio, defined as the number of persons in the age group 60 years and above, per 100 persons in the age group 15-59 years is a useful indicator for looking at the elderly within the population. The old age dependency ratio has increased marginally from about 12.04 per cent in 1981 to 12.19 per cent in 1991, being somewhat higher for females than for the males. This ratio is much higher in rural areas at 13.16 per cent in comparison to 9.66 per cent in the urban areas. It could, partly, be explained by the migration of individuals in the age group 15-59 to urban areas, leaving the elderly in the villages. At the State level, Haryana, Himachal Pradesh, Kerala and Punjab have a high old age dependency ratio. It is relatively lower in the North-Eastern region, the Union Territories of Delhi, Chandigarh, Andaman & Nicobar Islands, Lakshadweep, Dadra and Nagar Haveli.

Any increase in the old age dependency ratio implies that an increasing number of the elderly, generally with altered physiological, psychological or sometimes even professional capabilities and with reduced work participation rates have to depend more and more on the population in the working age group for support. This could have serious implications for the well-being of the elderly at household level. A survey conducted by the NSSO on the elderly in 1995-96 estimated that 30 per cent of the males and 70 per cent of the females were economically fully dependent on others. This incidence of old age dependence was significantly higher in case of females in West Bengal, Punjab, Assam, Haryana and Gujarat and marginally more for males in Karnataka, Punjab, and Andhra Pradesh in comparison to the national average.

## Polices and Interventions

The inter-State and rural-urban differences in the magnitude and pattern of the elderly have a bearing on the formulation of a policy framework, including legislative support and public and civil society interventions. An important aspect of addressing and mitigating some of these concerns, for the elderly, involves building income-financial security either on an individual basis or through broad based public and social provisioning. A survey conducted by NSSO in 1995-96 reveals that nearly 53.5 per cent of the elderly in urban areas and only 37 per cent of the elderly in rural areas possessed some financial assets. Expectedly, the proportion of females having financial assets was significantly less than that of the males. While the male-female disparity in possession of financial assets was 3.2:1 in rural areas, it was less than half, i.e. 1.5:1 in the urban areas. This highlights the necessity of having adequate but differentiated strategy for extending financial security to the elderly in rural and urban areas. Instruments such as pension funds, insurance and other means of extending old age social security, such as concessions on travel and medical care have to be identified, packaged and deployed to meet the diversity of needs of the aged.

Elders are often forced to work in the absence of adequate social security or post retirement benefits or when they cannot depend on the traditional family support systems. Most of this work is confined to the informal-unorganised sector, which makes the economic vulnerability of the elderly even greater. The Census of India 1991 shows that the work participation rate was as high as 60 per cent for the males and 16 per cent for the females. As against 65 per cent of the elderly males and 19 per cent of the elderly females working in rural areas, the corresponding figures were 43 per cent and 6 per cent respectively in the urban areas.

Besides the lack of income security, the problems of health care and adequate shelter have a direct bearing on the well-being of the elderly. Studies have shown that it is the fear of physical dependency (including being sick or disabled) rather than economic insecurity, which is a major cause of worry for the elderly. Both in rural and urban areas, the elderly are largely dependent on the public health care system to meet their preventive, curative, restorative and rehabilitative needs. In most States, the government's ability to provide quality health care services or medical care especially for meeting the needs of rural segments of population are extremely limited. The medical facilities, where available, are overcrowded, overstretched, poorly maintained, indifferently serviced due to paucity of funds and non availability of doctors and trained para-medics in rural areas. In most cases, the elderly have to depend on their limited savings or on support of their children and family members. There are some exceptions. The State of Kerala has demonstrated that the civil society institutions — charitable trusts and community health care foundations — the public health care system, and

### Legislations for the Elderly

The States of Himachal Pradesh and Maharashtra have introduced specific legislation to protect the elderly. The Himachal Pradesh Maintenance of Parents Dependents Act, 1996 includes in its definitions 'Dependent', the wife, parents and grand parents who are unable to maintain themselves. Tribunals are being set up in every district for clearing and determining claims for maintenance under this act. All proceedings including appearances are to be completed within nine months of the filing of the case. The Maharashtra Maintenance of Parents and Dependents Bill, 1997 is another such Act.

Some laws that are for the benefit of the older people and which generally confer some advantages on them include the Hindu Adoption and Maintenance Act, The Hindu Succession Act, The Employees' Provident Fund and Miscellaneous Provisions Act, The Payment of Gratuity Act, the Pension Act, The Income Tax Act and the Code of Criminal Procedure.

### National Policy for Older Persons

The National Policy for Older Persons was announced by the Government in January 1999. The goal of the policy is the well-being of the older persons. It aims to strengthen their legitimate place in society and help them live their life with purpose, dignity and peace. The policy, inter alia provides for:

- State to extend support for financial security, health care, shelter, welfare and other needs of older persons; provide protection against abuse and exploitation; make available opportunities for development of the potential of older people; seek their participation and provide services to improve quality of their life.
- Affirmative action in favour of the elderly, especially elderly females to prevent their becoming victims of neglect and discrimination on account of gender, widowhood and age.
- Empowerment of older persons to enable better control over their lives and participation in decision-making.
- Increased budgetary support from the State with equal attention to the rural and urban poor.

private medical practitioners can collectively provide a reasonably effective, accessible and affordable medical health care system to most people, both in rural and urban areas. States like Himachal Pradesh have shown that public health care system can deliver basic medical and health care services even in rural areas.

The issue of shelter for the elderly, outside the traditional family system, in the form of old age homes, community and recreational centres for the aged, have not been addressed systematically both by the public agencies as also the civil society initiatives in most of the States. There are critical gaps, which are going to widen further, in the demand and supply of such services.

There is a considerable scope for extending legislative and policy support to improve coverage and access of the elderly to these services. It is also important to address the issue of regulating and introducing standardisation in the services through better enforcement of the rules and regulations governing such services.

In the coming years with increasing number of the elderly, more so of elderly women, makes it necessary to suitably reflect the economic, social and physical concerns of the older people in public policies, programmes and interventions as also in the mobilisation of the civil society. The operationalisation and careful implementation of the National Policy for Older Persons could be a useful starting point.

## Children

### Child Labour-Conceptual Ambiguities and Magnitude

In India, despite acceptance of international standards and commitments on restricting the use of child labour, the existence of a national child labour policy, wide-spread national and State level laws and regulations, millions of children are engaged in work, often under hardship or hazardous conditions. It deprives them of their childhood and their dignity and is detrimental to their health, education, and more importantly, in developing capabilities and availing opportunities as normal individuals in the society.

As per the Census of India, there were 10.75 million child workers in the age group 5-14 years in 1971, 13.64 million in 1981 and 11.28 million in 1991. In absolute terms, there is no trend in the number of working children at the national level, though there is some decline in the incidence of child labour. This is only expected considering the period 1971-1991 has recorded the highest decadal population growth in independent India. It is only in the

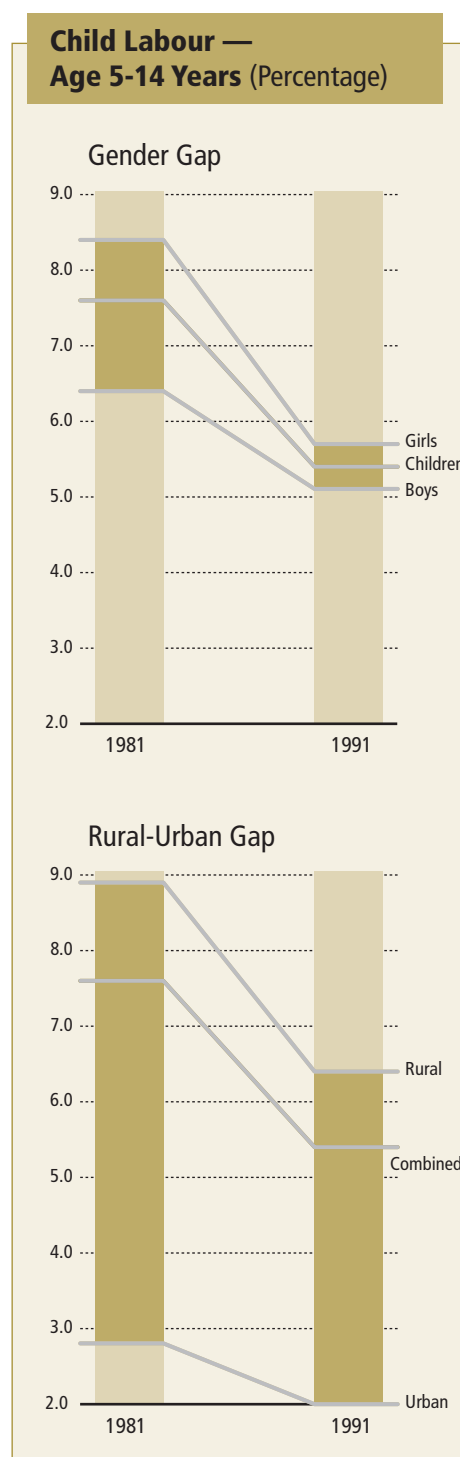
1990s that with a significant decline in the population growth rate along with improvement in over-all literacy rates, in general, and school enrolment/attendance in particular that one would expect a decline in the absolute number of child labour.

A child is classified as labourer if the child is in the age group 5-14 years and is 'economically active'. A person is treated as economically active or gainfully employed if he/she does work on regular basis for which he or she receives remuneration or if such labour results in output for the market. This is the definition used by International Labour Organisation and also by the Indian Census to estimate number of working children in India.

The definition of child labour is far from being unambiguous or precise, particularly in the Indian context. To begin with, such a narrow definition of child labour runs into problems if a child is involved in any unpaid work, for example, in day to day household chores or looking after the younger siblings in the family; or for that matter, in small family enterprises like retail business, or in seasonal agricultural work on the household farms. The problem becomes particularly serious when all this work on which children are deployed, is at the expense of acquiring education and becoming literate. The second set of problem arises when one looks at number of children in the age group 5-14 years, who are categorised neither as child labour nor as students enrolled or attending schools. This segment of the child population, often categorised as the 'no where children' is sizeable and comprises children who, though generally working, are not counted as part of the work force perhaps because of conceptual narrowness of the definition of child labour or because of difficulties in accounting the work performed as per the system of national accounting or because of the sporadic nature of their engagement in the labour market. Such children in any case provide a ready pool, both in rural and urban areas, from where the prospective employer can engage a more easily manageable labour, often, at a fraction of the going wage rate.

At the national level, for both boys and girls, incidence of child labour as per the 1981 Census was 7.6 per cent whereas incidence of 'no where children' was as high as 52.9 per cent or nearly 7 times. In 1991 the corresponding ratios were 5.4 per cent and 45.2 per cent respectively i.e. more than 8 times. This order of difference in the target group cannot be wished away, and certainly not from the point of designing public policy or from considerations of devising effective strategy of public intervention for mitigating the problem. Moreover, on normative considerations, in any developing society there is hardly any scope for not treating symmetrically all such children (in the age group 5-14 years) who are neither enrolled nor attending school or not studying with a view to acquire knowledge/skills, on a regular basis.

It is implicit in such an approach that, ultimately, development has to be seen as a process that enlarges the set of choices available to individuals in a society. This in turn involves guaranteeing, if need be through public intervention, a certain capability level and its actualisation through availability of a growing set of opportunities for all. Education, in the context of such an approach, is a critical dimension of building an individual's capability and ultimately his/her well-being. And so is the need to have a healthy childhood that lays the foundation for living a normal expected life-span and a potentially productive life, none of which is eroded by working prematurely when physically the body is not ready, or because



the childhood has been spent getting exposed to working conditions that are hazardous and strenuous.

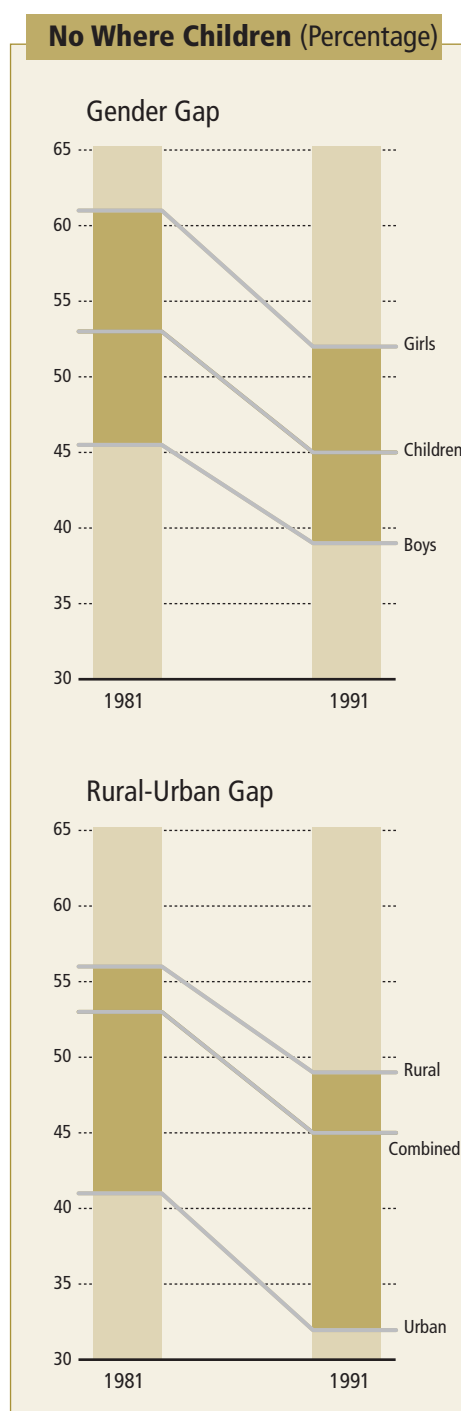
Notwithstanding these conceptual and definitional ambiguities in identifying and estimating the incidence of child labour, almost every estimate of child labour suffers from under reporting. In most countries, including India, there are stringent laws that either totally ban the use of any form of child labour or place a range of restriction on the use and deployment of child labour based on age of a child or on the type of activity that could be supported by such labour. It is only expected that in the face of such legislations and laws and, more importantly, their inadequate enforcement in the country, there is a fairly wide spread tendency among the employers, as well as the parents/guardians, to hide information or under report work being done by children.

### Regional Pattern

The incidence of children who are participating in the labour market along with those who are neither enrolled/attending school nor are categorised as working, declined from 60.4 per cent (65.1 per cent for rural areas and 44 per cent for urban areas) in 1981 to 50.6 per cent (55.8 per cent in rural areas and 34.3 per cent for urban areas) in 1991. The proportion of such girls was 67.2 per cent in 1981 declining to 57 per cent in 1991. Though, the proportion of working girls is lower than that of boys, the proportion of girls who are neither working nor going to schools is higher than that for the boys. This is, perhaps, because the girls are expected to perform more household chores and provide seasonal labour on the farms as well. The gender gap declined very gradually between 1981 and 1991 in urban areas, and stagnated in rural areas.

The State-level information for 1981 reveals that working children and the 'no where children' together, account for nearly two-thirds of the total children (over 75 per cent for girls) in the States of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. This proportion was over 70 per cent (over 85 per cent for girls) in these States in rural areas. In the better off States like Gujarat, Maharashtra, Punjab and Tamil Nadu, this ratio was between 40-45 per cent but was just 19.2 per cent in Kerala. With the exception of Madhya Pradesh, Himachal Pradesh, Haryana, Karnataka and Tamil Nadu which achieved a fairly reasonable decline of 'no where children', the pace of improvement was very slow in most States in 1991. The proportion was in the range of 60-65 per cent (72-75 per cent for girls) in Bihar, Rajasthan and Uttar Pradesh. It was 65-70 per cent in rural areas (close to 80 per cent for girls) in these States. Even in urban areas, the combined proportion for these States was in the range of 40-50 per cent, and between 45-55 per cent for girls. This proportion was much lower than the national average in the States of Kerala, Maharashtra, Himachal Pradesh, Punjab and Tamil Nadu. In 1991, there was significant rural-urban difference of over 20 per cent and gender differences of over 15 per cent in rural areas.

As per the 1991 Census, nearly 91 per cent of the total working children (excluding 'no where children') were in rural areas. This is partly explained by the lower proportion of the children in rural areas attending schools as compared to urban children. It is also, perhaps, on account of difficulty in enforcing minimum age for working as well as the minimum years of schooling in rural areas. The seasonal nature and bunching of agricultural





operations generate a fluctuating demand for labour that is seen to be best met by household hands, including the children. Most of the children are pushed into work because of this nature of rural economy. In addition, there is always the consideration of augmenting family incomes.

As per the 1991 Census, over 90 per cent of boys and girls among the working children in the rural areas were engaged in agriculture and related activities. While boys were equally likely to work in own cultivation and as agricultural workers, the proportion of girls working as agricultural workers was much higher. The employment structure of the urban child worker has been quite different and more diversified. Only 20 per cent of urban boys and 30 per cent of urban girls were employed in agriculture. Around 35 per cent of urban boys and girls were engaged in household and non-household industries. Within this group boys were likely to work more in non-household industries vis-à-vis girls who worked mainly in household/domestic work. Much larger proportion of boys worked in trade and commerce than girls. Nearly one-fourth of the working girls and one-sixth of the working boys in urban areas were engaged in service sector, including domestic work.

### Correlates and Concerns

There is an extensive evidence though largely at micro/village level, that identifies a range of variables for explaining the phenomenon of child labour in India. Poverty is stated to be the most important reason for children to enter and work in labour market. They work to ensure their own survival and that of their family. Children are often prompted to work by their parents, as they help augment the resources available to a household. Girls are invariably seen as an additional hand for household chores including looking after of younger siblings. This is often reinforced in cultural and social context, particularly in rural, backward areas. The NSSO data on child labour supports this observation. It is seen that generally, with increase in monthly per capita expenditure, as one moves up from lower to higher expenditure levels, there is a decline in child work participation rates. The data for 1993-94 shows, that for most expenditure classes the incidence of child labour amongst females is higher in rural areas. The converse is the case in urban areas. Secondly, children belonging to bottom 30 per cent of the households, account for 36 per cent of the working children (37 per cent for males and 35 per cent for females) in rural areas. In urban areas this ratio is 49 per cent (48 per cent for males and 52 per cent for females).

Schooling problems also tend to result in child labour. Often, children seek employment simply because there is no access to schools. Even if there is an access, the quality of education is poor, and perhaps seen as not relevant, that it makes attendance a waste of time. In many locations, there are problems like over-crowding, inadequate sanitation and apathetic teachers. In such cases, many parents may not find it worthwhile to send their children to schools and engage them instead in work for supplementing family income.

Child labour is closely related to the school dropout rates. Wherever dropout rates are high at the primary and middle levels, incidence of child labour is high. Cumulative dropouts are the highest in Bihar and Andhra Pradesh, which also have a high incidence of child labour. Kerala has the lowest dropout rates and it has the lowest incidence of child labour.

Incidence of working children and NWC is higher in States with higher incidence of poverty and lower adult literacy rates.

Migration from rural to urban areas also encourages child employment. With growing population, small or no agricultural holdings, mechanisation of agriculture operations and in general the limitation of agriculture sector to absorb the growing labour force productively, a large number of farm workers (who are unemployed or underemployed) are forced to migrate to cities. The migration is more visible from the areas of dry land farming, when droughts and failure of crops reduce work opportunities on the farms. Most of these workers are engaged in low paid work in urban informal sector, particularly in construction and other unskilled activities. Given the unfamiliar environment and deprivation, children of these migrant families often end up in the work force as rag pickers and domestic helps. There are many studies that provide evidence of wide spread ill health, including incidence of tuberculosis, bacterial and parasitic diseases, among children engaged in urban waste picking.

The quantitative analysis undertaken for this Report indicates that States where income/consumption levels are lower, that have greater prevalence of poverty—whether measured in terms of HPI or head count ratio—and/or where adult literacy rates are lower, are generally, the States with higher incidence of child labour and ‘no where children’.

### Policies and Interventions

The policy framework and the resulting interventions for addressing the issue of child labour, in most States, ranges between what could be termed as the ‘preventive approach’, involving suitable legal interventions — for checking and regulating the entry of children in the labour market — on one hand, and the ‘facilitative public interventions’ for creating an environment, particularly economic, for encouraging withdrawal of children from the labour market, on the other. The basic objective has been to create conducive social and economic atmosphere for discouraging the entry of children in the target age group of 5-14 years in the labour market. At the same time, States have taken recourse to publicly funded programmes that are aimed at improving accessibility and enrolment of children in schools, for instance, by providing mid-day nutrition supplements to school children or there are policies for regulating (i.e. mostly increasing) wage rates for adults

**Correlates\* of Child Labour — Including ‘No Where Children’**

Variables	1981			1991		
	Rural	Urban	Total	Rural	Urban	Total
<b>Child Labour Broad</b>						
Adult Literacy	-0.91	-0.89	-0.93	-0.85	-0.75	-0.85
Female Adult Literacy	-0.84	-0.89	-0.91	-0.81	-0.75	-0.83
Net State Domestic Product	-0.63	-0.50	-0.67	-0.52	-0.39	-0.56
Average Consumption	-0.63	-0.69	-0.72	-0.63	-0.46	-0.58
Gini Adjusted Consumption	-0.62	-0.62	-0.68	-0.57	-0.52	-0.58
Human Poverty Index	0.83	0.69	0.85	0.77	0.79	0.80
Head Count Poverty Ratio	0.28	-0.41	0.26	0.40	0.25	0.52

*Source\** Correlation Coefficients are from Sachdeva, Malhotra & Murthy (2001)

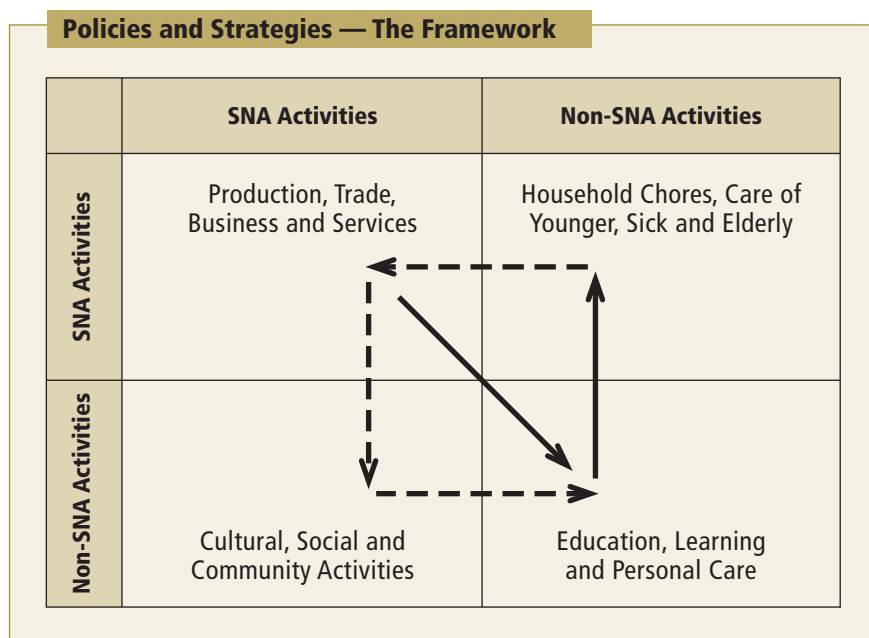
through measures such as minimum wage legislation that permit higher household incomes, thus, easing pressures on pushing children into the labour market. Though most of these measures have also been adopted universally across the States, the success in implementation varies from State to State.

In addressing the issue of child labour, the policy framework, public interventions and civil society initiative has to necessarily focus on bring about a decline in the proportion of time spent by children in providing labour in activities that are captured in the system of national accounting, such as those

involving production, trade, business or services and those activities that broadly come under the category of household chores. It is all the more important to bring about such a shift, if the deployment of children in these activities is at the expense of their enrolment and attendance in schools. At the same time, the time spent by an average child on education and becoming literate as also participation in cultural, social and community services has to increase.

Despite the Constitutional provisions and the Acts that emanate from it, there are obvious problems both in the reach and operation of the preventive framework of laws and regulations that regulate the market for child labour in the country. A major factor behind the limitation of the regulatory regime in India in preventing entry and participation of children in labour markets is the structure of the economy, in general, and the distinct segmentation of labour market, in particular. More than 90 per cent of labour market is unorganised or informal, engaged mainly in household and marginal/tiny segments of the agricultural and industrial sector respectively. This makes it difficult to administer, monitor and implement provisions under various Acts covering labour market.

There is no doubt that some minimal restrictions such as prevention of children from being engaged in hazardous occupations or under difficult working environments, or even for that matter as bonded labourers, are implementable and should definitely be enforced by strengthening the necessary administrative machinery. For instance, in more recent times, there has been considerable reduction in the reported cases of bonded child labour. While the sceptics may well argue that this is a case of information gap the preventive, rescue and punitive operations of public agencies and some voluntary organisations, have most certainly played a part in bring about this decline. However, a stringent implementation of the laws is, perhaps, not possible or even entirely desirable. An across-the-board ban on all kinds of child labour, even if feasible, could in fact, push the working children into a far worse state of hunger, destitution and starvation. More importantly, if some work is not at the expense of acquiring education and skills for enhancing capabilities and productivity, it may in fact be a desirable part of child hood training.



### Constitutional Provisions and Regulations on Child Labour

The Constitution of India explicitly address the issue of child labour Articles 24, 39 (e) & (f) and 45 incorporate specific provisions to secure compulsory education and labour protection for children. Article 24, on prohibition of employment of children in factories, etc. states that no child below the age of 14 shall be employed in any work in any factory or in mining or be engaged in any hazardous employment. Article 39(e)&(f) directs the State to ensure, through suitable policies, that individuals are not forced, by economic necessity, to enter vocations unsuited for their age and strength. It also states that children should be given opportunities and facilities to be able to develop in a health manner and in conditions of freedom and dignity, and that childhood and youth are protected against exploitation and against moral and material abandonment. Further, Article 45 on provision of free and compulsory education for children says that the State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, free and compulsory education for all children until they complete the age of 14 years.

Flowing from the Constitutional provisions and directives, a number of Acts including The Child labour (Prohibition and Regulation) Act, 1986, Factories Act, 1948 (Section 67), The Plantation Labour Act, 1951 (Section 24), Merchant Shipping Act, 1951 (Section 10-9), Mines Act, 1952 (Section 45), Motor Transport Workers' Act, 1961 (Section 21), Apprentices Act, 1961 (Section 3), *Beedi* and Cigar Workers' (conditions of employment) Act, 1966 (Section 24), have been enacted, and modified from time-to-time. The first of these, namely, the Child Labour Act 1986, is a comprehensive statement that prohibits employment of children in certain occupations and processes. Through subsequent amendments, the working conditions of children have been regulated in all employment categories and the schedule also has been substantially enlarged to cover in all 13 occupations and 51 processes.

On the issue of using public policy and direct interventions to create and improve the economic environment conducive for withdrawing the children from labour market or not pushing them into participating in the market, the most important set of policy imperatives relates to enrolling the 'no where children' and retaining them in the schools till at least the age of 14 years. States that have higher literacy levels and, hence, have the requisite infrastructure have been able to enroll and retain children in the targeted age group of 5 to 14 years effectively. In this context, schemes like the Mid-day Meal Schemes, which provide a nutrition supplement to children in schools, have been found to be useful, for instance in Tamil Nadu in increasing enrolment rates and bringing down drop-out rates. A factor that has been seen to be important in retaining the children in schools is the quality of education. Besides improving the teacher-pupil ratios, studies point out that a more innovative curriculum, including exposure to

information technology and vocational training, are important elements in improving the quality of education. Some specific steps, in this context, that could be considered and easily implemented include bringing in flexibility in the scheduling of school terms, particularly in rural areas where a large segment of child population is invariably drafted to meet the seasonal demand for agriculture labour. In urban areas, this could take the form of evening/night schools that permit such children who otherwise have to work to supplement their household incomes to acquire education and, hence, the opportunity to be more productive and better off later in their lives.

The failure to make even the elementary education compulsory has been a serious lacuna in the approach to addressing the problem of 'no where children'. It is, in fact, the other side of implementing a universal ban on child labour but its relative feasibility in terms of implementation has to be considered a little more seriously. Moreover, it is compatible with a certain amount of part-time work and is, therefore, a good way of preventing full-time work for children in the age group of 5-14 years. The social, economic and administrative feasibility of implementing compulsory education at least till primary and, preferably, till middle level, has adequately been demonstrated by some major States in the 1990s. States like Kerala, Tamil Nadu and Himachal Pradesh had a head start. These are now being joined by Andhra Pradesh, Karnataka and most of the North-Eastern States. It may,

however, be mentioned here that the Bill to make education a fundamental right for the children in the age group 6-14 years has already been introduced in the Parliament.

Given the magnitude of child labour (in its broader ambit) across regional and gender dimension and the success of some States in addressing the issue more effectively than others, indicates that there cannot be a uniform policy framework and strategy for success in all States. Clearly, local factors have a bearing on the effectiveness of any approach that is adopted to tackle the incidence of child labour. More importantly, both measures, namely, the preventive approach, on the one hand, and the policy framework for building a conducive environment to address the issue of child labour, on the other, have to be pursued in tandem, one supporting and complementing the other. Only then can one expect the development and sustenance of such socio-economic synergies in the society that can effectively address the problem of child labour.

## Disabilities

### Nature and Magnitude

In India, as per NSSO survey on disability, there were nearly 16 million persons with some physical disability in 1991 as against nearly 12 million persons in 1981. Disability refers to any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being. The disabilities covered in the survey included visual, hearing, speech, hearing and/or speech and loco-motor disability. Loco-motor disability refers to the inability of an individual to execute distinctive activities associated with moving both self and objects from one place to place.

As per the NSSO survey conducted in 1981, the number of disabled persons was 1.8 per cent of the total population. Males accounted for 57 per cent of the total disabled persons and only 41.5 per cent of the visually disabled. About 10 per cent of the disabled suffered from more than one type of physical disability. The rural-urban divide on disability was quite significant with rural areas accounting for 81 per cent of disabled persons in the country and about 84 per cent of those who were visually disabled. As against this, the 1991 survey showed that nearly 1.9 per cent of the country's population suffered from some kind of disability. Of the total disabled persons nearly 12.5 per cent suffered from more than one type of disability. Though the rural-urban divide on disability declined somewhat with rural areas accounting for about 78 per cent of the disabled population in the

#### The Third Sector Initiatives on Bonded Child Labour — MV Foundation

Among the many third sector initiatives, supported by preventive and rescue action of public agencies, the work of Mammipuddi Venkatarangaiya or the MV Foundation in the Ranga Reddy district of Andhra Pradesh has been quite encouraging in tackling the problem of bonded child labour in the region. Children suffering from malnutrition and hard labour, mostly under hazardous and exploitative conditions, have been weaned away from their employers merely on the promise of three meals a day and some time to play in the residential camps run by the Foundation. The children at the camp have a similar story to share. Most of them were pushed into bonded labour be it in the fields of the local landlord or with the small time factory owners to pay for their father's debt. In return for long hours of hard work most received only one warm cooked meal a day and had to do with the left overs for the other. The children opted out of child labour with the hope of joining formal school system voluntarily and without cash or other incentives to the respective families.

country, the proportion of visually disabled in rural areas was stagnant at a little over 83 per cent. The proportion of the males among the disabled, as also the proportion of males who were visually disabled increased to 59 per cent and 46 per cent, respectively.

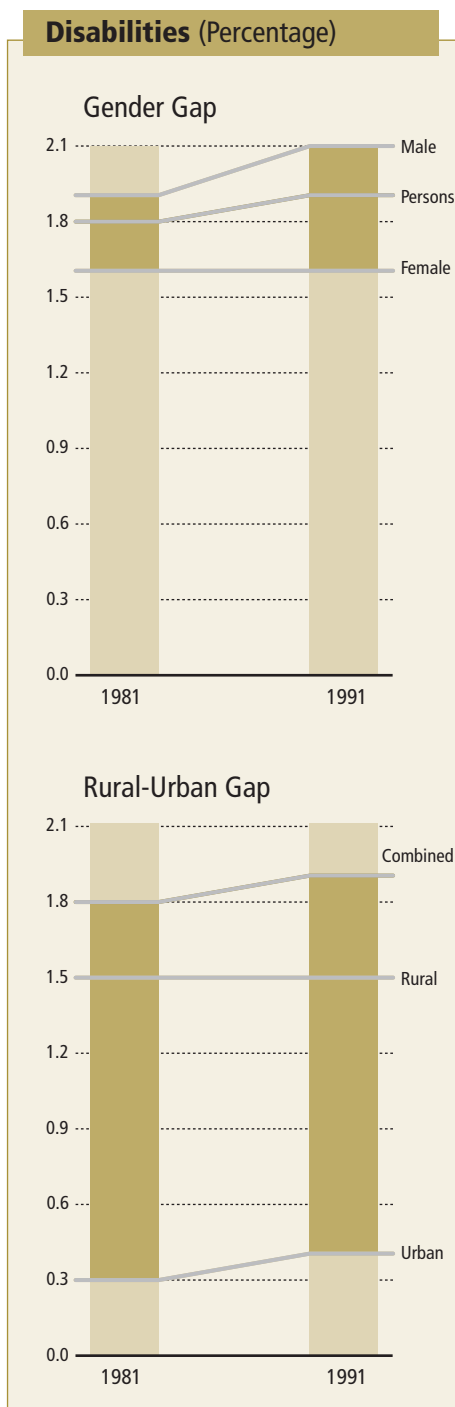
The prevalence of disability, defined as the number of physically disabled persons per hundred thousand persons varied across States. As against a 1.8 per cent prevalence of disability in rural areas at national level in 1981, the prevalence rate was over 2 per cent in Punjab, Andhra Pradesh, Orissa, Rajasthan and Tamil Nadu. In 1991, the prevalence of disability in rural areas of Punjab was close to 3 per cent, between 2.5-3 per cent in Andhra Pradesh, Himachal Pradesh and Maharashtra and between 2-2.5 per cent in the States of Karnataka, Madhya Pradesh, Orissa and Tamil Nadu as against the national average of 2 per cent. Rural Assam recorded the lowest prevalence of disability. In urban areas, Haryana recorded the highest prevalence of disability in 1981 at 2.2 per cent as against the national average of 1.4 per cent. It was also high in Tamil Nadu and Andhra Pradesh. In 1991, Orissa reported the highest prevalence of disability in urban areas, followed by Andhra Pradesh, Tamil Nadu, Punjab and Kerala.

The NSSO survey data reveals that in nearly 28 per cent of the cases in rural areas, loco-motor disabilities started at age 45-59 years and in 54 per cent of the cases it started after the age of 60 years. For urban areas, this proportion was 28 per cent and 59 per cent, respectively. It was seen that polio and injuries were major causes for loco-motor disability both in rural and urban areas. Polio was the major factor in Bihar, Rajasthan and Uttar Pradesh, rural Haryana and urban Andhra Pradesh. Cataract and old age were found to be main causes of visual disability. Most of the hearing disability was age related, the onset being mostly at the age of 60 years and above. Males had a higher prevalence of loco-motor and speech disabilities, whereas, females suffered from higher visual disability.

The issue of disability is not so much about the numbers and its distribution across States but about quality of life as it affects the capability of an individual to function in a normal manner. This is, particularly, true of individuals with disabilities from birth or early childhood. In such cases, the access and means to acquire literacy, education and skills may be significantly reduced, thus, affecting their capability to participate effectively and perhaps as productively as a normal individual. Not only does a disabled person require resources to overcome handicap(s), but he or she may also require additional resources to meet their specific needs of education, training and skill formation. The on-setting of disabilities with age, such as, the commonly seen visual, hearing and loco-motor disabilities have in most cases a direct bearing on the economic well-being of the person through reduced work participation rates and a decline in productivity of the affected person. As a result, the employment and income levels tend to be a fraction of the non-disabled persons. The problems for a disabled are compounded by many physical, social and attitudinal barriers that may restrict their livelihood opportunities and access to basic public services or social transfers.

### Policies and Preventive Interventions

Many of the more commonly seen disabilities are curable and can be addressed through an appropriate preventive, curative and a rehabilitative health care system. The implementation of child immunisation programmes



— the national pulse polio campaign in the more recent years — eradication of leprosy, blindness control and treatment of cataract have all contributed towards addressing the visual and loco-motor disabilities, particularly in the working age group population. The coverage and reach of health care system is, however, a serious constraint on addressing the problem of disability in the country, especially, in rural areas. More importantly, a critical element of public and social intervention, namely, physical and social rehabilitation programmes for disabled suffers on account of inadequate resources, lack of integration with medical and other treatment and often also from social insensitivity.

The enactment of 'The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995' which came into effect in 1996 and the Rehabilitation Council of India (RCI) Act 1992 provide the basic policy framework for addressing the issue of disability. The 1995 Act defines the responsibilities of the Central and State Governments with regard to the publicly provided services for the disabled persons. The Governments are expected to ensure that every child with disability has access to free and adequate education till the age of 18. It also requires setting up of integrated education and special schools to meet the educational needs of children with disabilities. The RCI Act regulates the manpower development programmes in the field of education and skill formation for children with special needs.

### Building Synergies in Public Action for Addressing Disability

There are more than half a dozen Government Departments, which are directly engaged in addressing the problem of disability in India. A coordinated approach to build synergies across the various interventions could substantially improve the effectiveness of public action in this area. Some of the public programmes on addressing disability issues are described here.

#### Health & Family Welfare

- Child immunisation programmes;
- Leprosy eradication programme;
- Blindness control programme and curative treatment of cataracts;

#### Department of Education

- Integrated education for disabled in special schools;
- Teachers training programmes for persons with disabilities;
- Provision of books, uniforms and other materials to school going disabled;

#### Ministry of Labour

- Vocational rehabilitation centres for the disabled;
- Training for promotion of employment of disabled;

#### Ministry of Urban Development

- Model norms and space standards for barrier-free in-built environment;

#### Ministry of Rural Development

- Reservation of 2-3 per cent benefits in all poverty alleviation schemes for the disabled and for improving their environment by building barrier free infrastructure;

#### Department of Personnel & Training

- Implementation of 3 per cent reservation of Government jobs for disabled;

#### Department of Women and Child Development

- Training of *Angadwadi* workers and ANM for early detection and timely prevention of disabilities;

#### Ministry of Social Justice & Empowerment

- Monitoring implementation of Persons with Disability Act 1995;
- National programme for rehabilitation of persons with disabilities in States;
- Setting up composite resource centres, rehabilitation centres and national trust for persons with various disabilities, viz. Spinal Injuries, Autism, Cerebral Palsy, etc.

## Law and Order, Crime and Violence Against Women

### Nature and Magnitude

It has always been recognised that rule of law and a social order based on principles of non-discrimination and equal opportunity is a critical

### Legislative Framework for Addressing Disability

The Persons with Disabilities Act 1995 seeks to, inter alia, achieve the following objectives.

- To spell out the responsibility of the State towards the prevention of disabilities, protection of rights of persons with disabilities and medical care, education, training, employment and rehabilitation of persons with disabilities;
- To create, barrier free environment for persons with disabilities;
- To remove any discrimination of persons with disabilities in sharing of development benefits, vis-à-vis, non-disabled persons and to counteract any situation of the abuse and the exploitation of persons with disability;
- To lay down a framework for comprehensive development of strategies, programmes and service for equalisation of opportunities for disabled and to make special provisions for their integration into the social mainstream; and
- To provide for better protection of rights of persons with disabilities and for their social security and matters connected therewith or incidental thereto.

The major features of the Rehabilitation Council of India Act, 1992 are:

- To regulate the training policies and programmes in the field of rehabilitation of people with disabilities and bring about standardisation of training courses for rehabilitation professionals/personnel dealing with people with disabilities;
- To prescribe minimum standards of education and training institutions in the field of rehabilitation, and their regulation, uniformly throughout the country;
- To recognise institutions/universities running degree/diploma/certificate courses in the field of rehabilitation of the disabled, including foreign institutions on a reciprocal basis;
- To maintain a Central Rehabilitation Register of persons possessing recognised rehabilitation qualification;
- To collect information on regular basis, on education and training in the field of rehabilitation of people with disabilities from institutions in India and abroad; and
- To encourage continuing rehabilitation education by way of collaboration with organisations working in the field or rehabilitation of persons with disabilities.

determinant in building and sustaining social systems, in general, and economic prosperity, in particular. In more recent times, societies that have given equal access to women and men in availing social, economic and political opportunities have generally progressed much faster than those where these have been denied or deferred. Societies, where property rights are unambiguous, enforced in a transparent, non-discriminatory and efficient manner and where the incidence of crime and violence is minimal — more so against vulnerable social groups or segments of population including women — are places where the individual and collective social well-being is best realised. Any attempt, therefore, at assessing the level of development, even when the conventional and the human development indicators are impressive, cannot be complete unless an assessment is also made of the social environment, particularly with regard to the extent of crime and violence that an average individual faces in that society. It is all the more important as it has been often seen that the more prosperous or developed regions are not necessarily the safest for all segments of population. In India too, the more

prosperous places are the ones where incidence of crime, in some form, is perhaps the highest — where organised crime and extortion is an unfortunate reality. However, the data on crime and violence is generally not available easily and at least could not be marshaled, in the desired format, for this Report. Nonetheless, it was felt that some crucial aspects of the issue should be highlighted in a report on the human development in the country. The gender specific crime and violence directed at women and the role of effective and efficient governance (Chapter 7) in well-being of people are some of the important aspects that have been considered in this Report.

The nature and the extent of violence directed at women vary according to class, region, culture and the strata of the society across the country. However, it impacts women in all age groups and is deeply embedded within the family context of the women. The women are often subjected to violence from their husbands and from relatives in their natal as well as marital homes. The violence against women includes not only physical aggression but sexual, psychological and emotional abuse as well, all of which may not



be easy to capture in terms of data as such incidences are often not reported or, if reported, the cases may not be registered for various reasons. Some data on cognisable crime against women, children and some other segments of the population, i.e., Scheduled Castes and Scheduled Tribes, has been presented in the Statistical Appendix. It can be seen that the incidence of some major crimes against women, such as rape, molestation, kidnapping and abduction, eve teasing, dowry deaths and ill treatment by husband and his family, for which cases were registered, has shown a significant increase over the years. The fact that domestic violence is quite widespread is clearly evident from the findings of some survey-based studies from different parts of the country. Moreover, at an aggregative level, the data on suicide by women manages to capture some aspects of the psychological and emotional abuse, particularly when women who are subjected to such violence see in the act of killing themselves, the ultimate escape from their miseries. It comes out as a surprise that, for instance, in 1997 the rate of suicides (defined as number of self killing per million population) in some of the better off States and UTs, such as Kerala, Karnataka, West Bengal, Tamil Nadu, Goa, Maharashtra and the Union Territories of Pondicherry, Andaman & Nicobar Islands, Dadra & Nagar Haveli and Tripura were well above the national average. Clearly, development whether captured through conventional indicators or through human development indicators, does not necessarily imply better social environment, in terms of less crime and violence, for women in particular.

Discrimination against women in our society and some similarly placed societies in south Asia could begin as early as conception — in the act of deliberately selecting the sex of a child. It becomes visible in the early childhood itself, in upbringing of girls vis-à-vis boys in the family, in terms of opportunities for education, skill formation and in terms of household work that the girl child is expected to share. This discrimination and neglect of the girl child is reflected in the significantly adverse and even declining sex ratio of women to men in many States. The differences become pronounced in the early adulthood when women are often subjected to covert and overt acts of physical and emotional abuse, sexual exploitation and even violence. The problem for the women could continue in the marital relationships that are forced on them or those that involve incompatible and socially maladjusted relations. In fact, the physical abuse of women in most cases enjoys some kind of social sanction, compounded further by the

### Domestic Violence in India — Some Evidence

International Clinical Epidemiologists Network (INCLIN) undertook a multi-site study between 1997 and 1999 covering the cities of Bhopal, Chennai, Delhi, Lucknow, Nagpur, Thiruvanthapuram and Vellore in collaboration with research teams from medical colleges of these cities. The study attempted to address the measurement of physical and psychological violence by focusing on commonly understood behaviours. In addition, the study attempted an estimate of socio-economic costs of domestic violence at household level.

Overall, the study found that domestic violence is prevalent in all setting, regions and religious groups. Nearly, 50 per cent of women reported experiencing some kind of domestic violence at least once in their married life, about 44 per cent reported experiencing at least one psychological abusive behaviour and nearly 40 per cent reported experiencing at least one form of violent physical behaviour. The reporting of any form of violence was highest by rural women followed by women in urban slums. In comparison to rural and urban slum women, significantly fewer urban non-slum women reported either psychological or physical violence. There was no clear north-south divide in the prevalence rates of violence against women at different sites. It was found that the abused women predominantly sought the help of members of their natal family and 91 per cent considered this source helpful. Seeking help from institutions such as women's organisations, the police, mental health care or local officials were rarely reported by women. While women perceived violent behaviour as 'normal' in marital life, disparity in the education level and marriage age of spouses, dowry related pressures, unemployment, alcoholism, childhood abuse and poverty are factors found to be linked to high rates of domestic violence in India.

*Source Domestic Violence in India-A Summary Report of a Multi-Site Household Survey; International Centre for Research on Women, May 2000.*

tolerance and resignation of the individual on grounds that it is only expected of married women. The dowry deaths are an unfortunate and hideous manifestation of these incompatibilities in marital relations and acceptance of perverse social norms. Ultimately, the ill treatment of women is reflected in the deprivation of elderly and economically dependent widows.

Moreover, throughout her life cycle, a women's dignity, self-esteem and emotional well-being are compromised by some less overt, but widespread form of discrimination such as personal confinement and restriction on mobility, particularly in rural areas; almost complete marginalisation in the decision making process at the household level; responsibility for household work including, looking after younger siblings; sexual abuse by the family members, even incest; childhood/forced marriage and verbal abuse. Most of these are not even recognised as a form of violence and are often condoned or justified on grounds of religious, cultural and traditional social norms or on grounds of attracting social stigma and thus jeopardising the social status of the concerned family.

It may well be argued that women attainments such as those captured by the Gender Development Indices or the GEI as estimated in this Report may be adequate tools in reflecting the well-being of women. It may not, however, be so because a woman even while doing well in terms of development attainments may be facing violence and abuse at home and at places of work.

### Policies and Interventions

The public policies and civil society interventions to bring about an improvement in domestic and work environment of women have to be seen essentially in terms of strengthening such process that are conducive to bringing about attitudinal shifts in individuals, particularly among the men, and evolving social norms supportive of gender specific concerns. The implementation of Constitutional provisions for women through appropriate legislation and a supportive framework of rules and procedures is a natural

starting point. However, even the legal and judicial institutions, in the country, have failed to provide adequate deterrents for violence directed at women. The procedural requirements and the slow pace of justice have eroded the enshrined and the enacted safeguards against violence and physical abuse of women. Thus, for instance, the criminal law on rape has been amended on more than one occasion and yet it has not acquired the necessary potency to become an effective deterrent for such acts in the country. Similarly, the rights to inheritance and property and the supportive legislative framework for enforcing them is far from being sensitive or effective in addressing the needs and the concerns of

#### National Commission for Women

The National Commission for Women, a statutory body, was set up 1992 to safeguard the rights and interests of women. It has been reviewing women-specific and women related legislations and advising the Government to bring forth necessary amendments from time to time. The Commission has been going around the country to investigate problems of women belonging to socially and economically disadvantaged groups specially those from the Scheduled Castes and Scheduled Tribes and other target groups such as women/child-sex workers, women in custody/asylum, women with disabilities, etc.

The Commission has adopted open public hearings (open *adalats*) to enquire into cases of grievance and abuse. In the process, it has taken the system of justice to the doorsteps of the women.

It has started reviewing legislations that have a bearing on women. Based on their recommendations, the Government has already initiated action to amend the Commission of *Sati* (Prevention) Act, 1987; Immoral Traffic (Prevention) Act, 1956; Indecent Representation of Women (Prohibition) Act, 1986; Child Marriage Restraint Act, 1929; Guardians and Wards Act; Family Codes Act; Foreign Marriage Act; and Amendment in Indian Penal Code relating to rape.

women. There is significant scope for improving implementation and enforcement of all such legislations that have a direct bearing on the empowerment and well-being of women. In this context, the work of the National Commission for Women has been quite encouraging.

Spread of education and literacy along with greater economic independence are some of the durable ways to bring about the necessary attitudinal changes in the society to support the concerns of women and to check the abuse and violence directed at them. It is also the prime means to empower women. To instill dignity, confidence and the ability to stand up for their rights and sustenance, girls have to be given equal opportunities in education, skill

acquisition and the process of decision-making. Parents have to be sensitised for their attitudes towards their children, particularly towards the girl child. There has to be a continuous review of curricula at all levels to ensure that the content and process of education reflect gender equality. Women have to be given a chance to speak for themselves and their perspective and specific interests have to be reflected in decisions that have a direct bearing on their well-being. Much of this would come through with the spread of education, but some of it could be brought about by well-directed public spirited and socially responsible actions on part of civil society organisations including interest groups and voluntary organisations.

### Constitutional and Legislative Provisions for Women in India

The Constitution of India guarantees to all Indian women:

- Equality before the Law — Article 14;
- No discrimination by the State on grounds of only religion, race, caste, sex, place of birth or any of these — Article 15(1);
- Special provision to be made by the State in favour of women and children — Article (15(3));
- Equality of opportunity for all citizens in matters relating to employment or appointment to any office under the State — Article 16;
- State policy to be directed to securing for men and women equally, the right to an adequate means of livelihood — Article 39(a);
- Equal pay for equal work for both men and women — Article 39(d);
- Provisions to be made by the State for securing just and humane conditions of work and for maternity relief — Article 42;
- To promote harmony and to renounce practices derogatory to the dignity of women — Article 51(A)(e).

In addition, Articles 243D(3), 243D(4), 243T(3) and 243T(4) of the Constitution makes provision for reserving not less than one-third of the total seats for women in the direct elections to local bodies, viz. *Panchayats* and Municipalities.

## Physical Environment

### Issues and Concerns

The relationship between physical environment and the well-being of individuals and societies is multi-fold and multi-faceted with a qualitative as well as a quantitative aspect to it. The ambience aspect of the environment, be it the quality of water, air or noise pollution, has a direct impact on an individual's sense of well-being. The availability and use of natural resources has a bearing on the outcome and the pace of development process and, hence, on the collective and individual attainments in any society.

The sustainability of the growth process could often be constrained by the supply of non-renewable natural resources — the most common and, perhaps, also the most critical being the hydrocarbons — and by indiscriminate use of some of the renewable natural resources. Although, the much publicised concerns regarding the running out of global supplies of such non-renewable resources as fossil fuels and minerals have proved to be

misplaced, the mounting wastes, both toxic and non-toxic — a byproduct of the development process — are posing a serious threat to the quality of life. For instance, the global reserves of oil are not running out, they have in fact increased, on account of new discoveries and technological improvement in extractions. However, their use in excess of the planet's sink capacity to absorb emission, could result in global warming, thereby creating a serious threat to the eco-system. At the same time, there is a rapid deterioration in quality of certain ecological resources — water, soil, forest, marine and aquatic life and bio-diversity. These could acquire severe dimensions, particularly, in the developing countries that lack resources and technology to address these concerns.

This environmental consequence of development tends to offset the benefits that may be accruing to individuals and societies on account of rising incomes. There are direct costs on the health of individuals, their longevity and on quality of life on account of deterioration in environmental quality. More importantly, the environmental damage can also undermine future attainments and productivity if the factors of production, are adversely affected. For the sake of maximising current incomes and the pace of growth, degraded soil, depleted aquifers, diminishing forest cover, deteriorating urban environment and destroyed eco-systems can scarcely support better living standards and quality of life in future. This is all the more true for countries where the population is large and yet to stabilise.

An attempt has been made here to identify and assess environmental indicators that have a direct bearing on the quality of life and at the same time affect sustainability of growth process and hence well-being of people over time. Some major environmental concerns have been flagged by looking at data on indicators that are amenable to analysis at State level in conformity with the format adopted for this Report.

### Forest Cover

Forests provide a number of services. This includes timber and non-timber forest produce, environmental benefits such as, watershed protection, prevention of soil and water run-off and ground water recharge, purification of air and water by acting as a sink for green house gases like Carbon dioxide, conservation of genetic resources and bio-diversity, recreational services and aesthetic value. Forest in India are a source of sustenance by way of providing non-timber forest produce, fuel wood and fodder to a large number of forest dwellers, more than half of them tribals. The role of forest in providing soil and moisture conservation services is often critical for agricultural and watershed development activities in many areas.

At the national level, a little less than one fifth of the land area is under forest and has remained so for nearly two decades. In the last two decades the dense forest cover in India has stabilised around 36 million hectares. There are, however, large inter-State variations. The forest cover in the North Eastern States varies from around 30 per cent in Assam to around 80 per cent or more in Arunachal Pradesh, Manipur, Mizoram and Nagaland. On the other hand, forests account for only 2 to 6 per cent of the total land area in States like Gujarat, Haryana, Punjab and Rajasthan. The National Forest Policy of 1988 lays down that one third of the total land area of the country should be under forest cover. This is a tall order and cannot be realised till bigger States like Uttar Pradesh, Rajasthan, Maharashtra and Andhra

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Pradesh are able to increase their area under forest cover. Most of these States have large tracts of land that are classified as 'Non Forest Wastelands'. It is these areas that need to be brought under forest cover. In recent years, Himachal Pradesh and Rajasthan have shown a significant improvement in their forest cover.

An important development in the management of forest in the country has been the strengthening of Joint Forest Management (JFM) programme. The principal feature of the JFM programme is to enhance environmental stability and the benefits to local people in active participation with them. By 1997, 18 State Governments had issued enabling resolutions permitting partnership with local people for managing the forests. These States have 80 per cent of the country's forestland and 92 per cent of its tribal population. However, only about 17 per cent of forest cover in India is presently under JFM. The results of this approach vary considerably across States. In case of Bengal where JFM was first applied in 1970s, there are some tangible improvements in forest management.

## Water Resources

The total water resources in the country comprise replenishable ground water resources and river water resources. Of the total replenishable ground water resources 432 Cubic KM, nearly 92 per cent are estimated to be utilisable. So far, only about 32 per cent of the ground water has been developed. The total river water resources are estimated at 1953 Cubic KM. Despite these water resources, the report of the National Commission for Integrated Water Resources Development has estimated that the country's total water requirement in the year 2050 barely matches the estimated utilisable water resources. While there may not be a need to take an alarmist view on such a scenario, it certainly highlights a need for having an integrated approach to development and management of water resources in the country. It is important to bring about utmost efficiency in water use if the balance between requirement and availability of water resources has to be comfortably maintained. More importantly, there is a need to strike a balance between the availability and requirement across basins, regions and between sections of the population.

The quality of water is a critical issue that has to be addressed on a continuing basis. The Central Pollution Control Board (CPCB) in collaboration with State Pollution Control Boards has been monitoring water quality of national aquatic resources. The results indicate that organic and bacterial contaminations are the predominant sources of pollution in aquatic resources in the country. A large flow of untreated municipal sewage into

### Pollution in Yamuna

Yamuna is the most polluted river in the country with high BOD coliform levels in the 500 KM stretch between Delhi and Etawah. The main cause of pollution is industrial discharge, irrigation run-off and untreated sewage. The sewage system in Delhi has lost 80 per cent of its carrying capacity on account of age, siltage and poor maintenance — a fact that has come to light only after setting up of sewage treatment plants for the city. As a result, only 20 per cent of the domestic waste water is being treated, the rest flows through storm water drains into the river. The treated effluent is being put back into filthy drains as cent per cent interception of sewage at the treatment point has not been achieved. The treated waste water is carried along with the untreated into the Yamuna. In addition, the over extraction of water from the water for irrigation brings down the water flow below the minimum required for maintaining ecology of the river and for diluting pollutants that flow into it. A number of slums and shanties, unserved by sewage system also add to the pollution in the river.

*Source* Mid Term Appraisal of the Ninth Plan, Planning Commission, GoI 2000.

Quality of environment has a direct bearing on longevity and productivity, particularly of the poor.

these bodies reduces the level of dissolved oxygen required to support aquatic life and tends to increase pollution level in terms of Biological Oxygen Demand (BOD), as a result of which aquatic life is getting destroyed and disease causing organisms in water are increasing. While the level of water quality parameters vary across States, studies have found that sewage waste pollution is pre-dominant in the States of Uttar Pradesh, Gujarat, Tamil Nadu, Assam and even Delhi. Gujarat followed by Maharashtra, Andhra Pradesh, Tamil Nadu, Uttar Pradesh and Punjab have high levels of chemical pollution in their water resources.

There is ample evidence that establishes domestic sewage to be the primary source of water pollution in India, especially, in and around large urban centres. The sewage treatment facilities are inadequate and often under utilised in most cities and almost absent in rural areas. At the national level, 90 per cent of the urban population has access to safe drinking water but only 49 per cent has access to sanitation services. The latter poses a threat to the continued availability and improvement in the supply of safe water to households. Only 25 per cent of Class-I cities have base water collection, treatment and disposal facilities. Fewer than 10 per cent of 201 smaller towns have wastewater collection systems. As a result, not more than 20 per cent of all wastewater generated in Class-I cities and 2 per cent in Class-II towns is treated. Access to safe drinking water, therefore, continues to be a challenge for a large part of the country and its inhabitants.

### Air Pollution

Deterioration in air quality is globally one of the major and the more wide spread environmental problem in urban areas. The ambient air quality has deteriorated all over the country, especially, in semi-urban and urban areas. Anthropogenic activities result in air pollution on account of three broad sources, viz., stationary sources (use of fossil fuels in industries and thermal power plants), mobile sources (vehicles) and in-door sources (burning of bio-mass). The relative contribution of these sources varies across cities depending upon vehicle ownership, type of industry and dependence on commercial vis-à-vis bio-mass sources for cooking and heating as well as the enforcement of pollution control norms for some of these sources. The air pollutants are generally categorised into Suspended Particulate Matter (SPM) and gaseous pollutants.

A study on the ambient air quality recorded for 23 cities in the country reveals that SPM levels remains critical in many cities. More importantly, small to medium towns such as, Indore, Ahmedabad, Patna and Ludhiana have higher SPM levels than those prevailing in metro cities. Though, Sulphur-dioxide and Oxides of Nitrogen levels have registered an upward trend, they remain well within the National Ambient Air Quality Standards in all the cities. In addition to these common air pollutants, some of the toxic and carcinogenic chemicals are being detected in urban air. Very little monitoring, if any, of these pollutants is currently being done.

A major source of air pollution, particularly, in rural areas is caused by burning of unprocessed cooking fuels in homes. Rural households mostly rely on bio fuels such as cow dung, fuel wood, crop residues and in some cases mineral coal for meeting their fuel and energy requirements. The indoor pollution on account of the pollutants released in closed and unventilated places is, perhaps, more dangerous than the air pollution outdoors. It is

estimated that indoor pollution in India's rural areas is responsible for five hundred thousand premature deaths annually, mostly of women and children under 5. This accounts for 6-9 per cent of the national total measured in terms of Disease Adjusted Life Years. These estimates make the health impact of indoor exposure larger than the burden from all but two of the other major preventable risk factors that have been quantified, malnutrition (15 per cent) and lack of clean water and sanitation (7 per cent).

Much of the air pollution is a result of faulty planning of civic amenities, inappropriate technology and above all indifferent enforcement of pollution control norms. An integrated approach involving each of these elements has become an imperative for public policy and administration in most of the urban and rural areas in the country. An additional requirement, especially for the rural areas is the urgent need to make it possible for the people to move up the energy ladder with a view to address the adverse health impact of indoor pollution on account of the use of unprocessed cooking fuels.

### Urban Solid Waste and Noise Pollution

The levels of urban solid wastes being generated in different cities poses a serious threat to environmental quality and human health. Many cities generate more solid wastes than they can collect or dispose of. Even when there are adequate resources available by way of public provisions to the municipal authorities, the safe disposal of solid waste often remains a problem. Open dumping and uncontrolled land filling are in most cases the main disposal methods. The organic material (garbage) is a fertile breeding ground for bacteria and viruses that cause disease. Due to inadequate collection, improper disposal and lack of proper storage facilities, solid waste get into open drains and obstruct free flow of water. This in turn becomes an ideal breeding ground for diseases. The municipal solid waste sites often receive industrial and hazardous waste including those from hospitals and laboratories adding to the problem of disposal and serious consequences for environment and health of individuals. The system for disposing non-biodegradable urban solid waste is practically non-existent. There is tremendous scope for improving technological input and institutionalisation of responsible social practices such as, the practice/requirement of segregating household solid waste into distinct categories for facilitating an efficient and environmentally safe disposal.

A major problem in urban solid waste management relates to sewage disposal. With inadequate and often inappropriate and malfunctioning systems of sewage disposal, the threat to the availability of safe drinking water is quite serious in most urban areas in the country. There is an urgent need for revamping and maintaining the sewage system in almost all cities and more importantly increasing its coverage to slums and the shanties that are entrenched in most metro cities.

Noise pollution is perhaps, the most under rated and under emphasised aspect of urban environmental hazard to human well-being. The noise pollution refers to presence of sound in the environment at levels that are injurious to human health, especially, when exposed on a sustained basis. Persons regularly exposed to loud sounds are likely to suffer more from hearing impairment, sleep disturbance and general stress than those who live in more salubrious environment. The vehicular traffic is the most wide spread source of noise pollution. In most Indian cities, the average noise level

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in residential, commercial and sensitive areas (silence zones including, hospitals, educational institutions and courts) exceeded the prescribed standards of CPCB during the day as well as the night-time. Only in industrial areas and that too in the night, the noise levels were within the prescribed limits in case of most cities. In some places, the noise levels in residential areas and in silence zones exceeded even those prevailing in industrial areas. This is one area of environmental concern that has practically been unaddressed, where existing legal provisions have largely remained un-enforced and adequate social awareness is yet to surface.

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