August 2012

Vol 56

YOJANA

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Let noble thoughts come to us from every side
Rig Veda

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YOJANA seeks to carry the message of the Plan to all sections of the people and promote a more earnest discussion on problems of social and economic development. Although **published by the Ministry of Information and Broadcasting**, Yojana is not restricted to expressing the official point of view. Yojana is published in Assamese, Bengali, English, Gujarati, Hindi, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telugu and Urdu.

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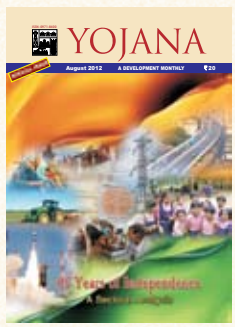
SUBSCRIPTION : 1 year Rs. 100, 2 years Rs. 180, 3 years Rs. 250. For neighbouring countries by Air Mail Rs. 530 yearly; for European and other countries Rs. 730 yearly.
No. of Pages : 76

About the Issue



Every year we celebrate our Independence Day with reverence as we pay homage to our martyrs and freedom fighters. It is also the time to introspect on our achievements, our successes and failures and chart out the path that has to be travelled. Yet sixty five years of independence is but a small step in the long journey of India's history and civilization.

The advent of political democracy in India has been unique and distinct. The Indian Constitution, created a democratic republic and pledged to secure justice, liberty, equality and fraternity for all its citizens. Universal adult franchise was provided for all at one go and provisions were built into the Constitution for affirmative action in favour of the disadvantaged and weaker sections.

Economic development at the dawn of independence was shaped by India's colonial past and the nationalist present. The state was to a play dominant role in the process of development with conscious efforts to integrate with the world economy. Consensus evolved over the increasing return of industrialization, it being synonymous with development. During this period, apart from thrust on industrial development, there were actions to address the exclusion of the poor and exploited. Land Reform legislation were adopted, community development programmes for the rural areas were initiated and Panchayat institutions were encouraged. Under the governmental led planning process, India achieved high industrial growth between 1954-55 to 1964-65. In the next ten years, industrial growth declined and India was faced with frequent balance of payment crisis. The year 1991 saw the beginning of the reform era, through a programme of reforms to liberalize the economy, import competitiveness and increase its growth potential. Following the economic reforms, India has emerged as a major player in the global economy, bringing with it new challenges and responsibilities India enjoys the unique advantage of having many economic indicators in its favour, particularly a large domestic rate, robust investment to GDP ratio and demographic advantage. Undoubtedly however, this requires India to address its internal challenges, which include the long standing problem of poverty and development of its social and physical features.

Today, there is recognition that inclusive growth should be achieved in order to reduce poverty and other disparities and raise economic growth. To achieve and improve inclusive growth equity, agriculture development, economic reforms, equality of opportunities should be brought about. Challenges relating to literacy, health, poverty, women's development and regional disparities are to be addressed for bringing about inclusive growth. In order to tackle the menace of poverty, several poverty alleviation programmes have been implemented.

India home to almost a sixth of the global population is poised to become the third largest economy in terms of GDP in the next two decades. At present along with China, it is one of the fastest growing economies in the world. The sustained growth of the economy will be dependent on the sustained growth of infrastructure development. India has made strides in the fields of space, communications and information technology. India is acknowledged as one of the largest storehouse in the world for technically qualified workforce.

In this special issue of Yojana, we highlight some of these sectors, the development that has taken over the Plan period, the challenges that confront us and the issues that are needed to be addressed.

We wish our readers a happy Independence Day. ❑

An optimistic future for Indian Education

Yash Pal

Learning of our students in schools and colleges is imprisoned in disciplines and does not allow wandering around their interests and passions as they develop

A FEW DAYS ago I received a call from someone who seemed as disturbed as I sometimes get about the state of our education. This person demanded that I do something of the kind I had done a few years ago to save our children from intellectual violence. After a brief conversation I became aware that he was referring to the Public Interest request I had made to the Supreme Court about sudden sprouting of a large number of universities in Chhattisgarh. With the help of a number of worthy public interest lawyers it became possible to abolish a significant number of spurious universities. I am sure many students who had enrolled suffered, but the young have a lot of resilience. The abolished universities did not disappear but found a new life with the help of state politicians and other well wishers, and many of them were back with greater vigour than before. It had been discovered by some entrepreneurs that some type of education is extremely lucrative.

The gentleman who had called me wanted me to get back into a similar act! I am not in a mood to get into that kind of a fight again. I thought about the intense thinking done by a committee set up MHRD and the fact that the deep and beautiful Report, called the National Curriculum Framework, submitted by it was generally admired in the country and by many academic circles around the world. It seemed possible that finally a change was in the offing.

The vigour shown by a large number of individuals, from various organizations, led by NCERT, in creating new teaching learning material was unprecedented and specially tuned to the present day world. It was suited to the new understanding that learning is acquired by the learner and not delivered by teachers acting as courier agents. The role of the teacher was elevated to that of a scholar who engages in a continuing

The author is National Research Professor.

interaction with the students to stimulate learning while learning herself.

Curriculum renewal would be a continuous process. There would be learning from what has been done elsewhere, in the country or abroad, there would not be a fear of being left behind or mindless catching up exercises.

Since the student was to be involved in constructing his/her knowledge, the gap between the school learning and learning from life would be narrowed if not eliminated! This would lead to creativity. The attending problem of testing students in a regime of increasing variety would need to be assessed. One hopes that this task would be undertaken while recognizing the value of variety and not demanding a dead uniformity.

We are past many significant developments. Perhaps I should call them achievements:

- We have a National curriculum Framework developed after deep thinking and widespread involvement. This framework had a national political approval.
- It is generally believed that this curriculum applies only to school level education. I believe, on the other hand, that many salient features of that deep academic engagement have validity at all levels!

It is well known that breaking up knowledge into steel walled narrow disciplines tends to make all learning sterile. Therefore boundary crossing has to be encouraged as a requirement for all creative work. Unless we get into such a habit no other initiative is likely to be of any help.

It has become fashionable on the part of some people to proclaim that our education is substandard – right from school level to the highest university level. We do make a concession in this regard for a few brand name institutions like IITs and IIMs. Also, some private universities and institutes that spend enormous resources to advertise on television and other media about their great prowess, their scholarship and placement schemes and occasional foreign teachers associated with them as honorary professors. Names of these institutions get to be known like some brands of toothpaste, hair creams, soaps for fighting dandruff and other beauty aids. Our great communication revolution is mostly propagating such educationally useful information. And all this employs much talent and script writing and definitely adds to our GNP.

I have visited thousands of schools and interacted with hundreds of thousand children. I am personally not so disappointed by the quality of the genetic pool of students in our schools and colleges. I find urge, passion and curiosity – particularly curiosity that unfortunately withers away with age. There is will to learn and also to go off in tangential directions which, they often cannot.

Learning of our students in schools and colleges is imprisoned in disciplines and does not allow wandering around their interests and passions as they develop. They are also circumscribed by our examination system and forced to compete in mindless races to get high marks. To help in competitions we have a large industry of coaching classes, which is very effective in killing curiosity and creativity.

Meandering through subject areas should be positively encouraged, not prohibited. We should remove all obstructions against such meandering and discipline crossing.

Schools, colleges and universities should become effervescent places, exploring and often going in different directions. They should be noisy places, not dead quiet. Demand for absolute uniformity turns students and teachers into stones that need to be polished and cut the same way. Young humans should not be subjected to such benevolent aggression.

All that I have said above is highly desirable and we have to eliminate all impediments against movement towards a life of discovery and exploration. We should realize that, while information can be delivered, each child creates its knowledge almost autonomously.

What must we do to encourage a freedom movement for education?

- Universities should be academically autonomous.

- They should work independently or in cooperation with other colleges and universities.
- No organization should lord over them.
- No one in UGC, AICTE or other such councils should give them orders or enforce courses of study.
- Such courses should be developed autonomously or by working together with other academics anywhere in the world.
- Diversity should not frighten us.
- No university can be great if it is just a cubical for a single discipline. There is none such in the world. Many of them might have started as disciplinary institutes in engineering, humanities or as seminaries of one kind or another but their greatness started when they burst out to cover a large universe of knowledge. Indeed then they truly became universities. This can be said of places like MIT, Harvard, Oxford, Cambridge, Rome, Paris and many others.
- We have a large explosion of professional colleges and universities which have very little to do with philosophy, linguistics, psychology, making or writing poetry or worrying about the bulk of people living in a world of poverty, discrimination and oppression.
- Our IIT's and Institutes of Management can graduate into the class of great universities if they venture out to include subjects in humanities and sciences.
- We have a large number of institutions called Deemed Universities. Fate of many of them is uncertain. It is unlikely that they would generate and spin out ideas that might change the world – or India for that matter.

To summarize, following are the few areas with which I have tried to engage with some passion. I confess that the degree of success in each of them is perhaps inversely proportional to its importance. There is a long road ahead, at least for some of these areas. The end may never be reached. But I do believe that being engaged in these aspects is a 'Karma' no scientist can avoid. In retrospect, I could say that my passion has been to replace the impenetrable walls and boundaries with two-way permeable membranes in following areas:

1. Walls between Universities and Research Laboratories, between Industry and Academic Institutions.
2. Walls between the Subterranean Learning and Innovation and Formal Education and Research.
3. Walls between Disciplines and the resulting Infertility of Information. How not to imprison ourselves in Disciplines.
4. Walls between Instructing and Learning from Children.
5. Thick Walls between Intellectual Understanding and Societal Brain Washing.

Foreign universities

There should be no problem welcoming excellent people from all over the world, including large number of NRI's to come in and join us in creating institutions in which they can make their own careers while creating new knowledge. A new class of education entrepreneurs, for whom education is only a business proposition, should not dominate.

We cannot import whole, fully dressed, foreign universities, sometimes with Ivy on their walls! This has never been done anywhere. When a hundred years ago Americans found that their universities needed vigour and excitement they did not set out to import some of the great universities of Europe. However, they did persuade a large number of truly excellent and creative individuals to come to American institutions to change their climate and make their own careers. That is how the great Graduate Schools of America were developed. Importing academic talent in our midst for energizing some of our universities is the way to go forward and not to get the managers and provosts to come and direct us. ❑

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ANALYSIS

Land Acquisition for Infrastructure and Industry

N C Saxena

The present land acquisition law has been quite hostile to the interests of the landowner, as it attempts to make land available to industry through government at a minimal price

FAST ECONOMIC growth in the last two decades has increased demand for land from many sources, such as infrastructure, industry, resource extraction (such as mining), and urbanization, including real estate. Even when many of these activities are funded privately and driven by profit motive, they serve a social purpose, as employment generation per unit of land is higher in non-agricultural uses than in agriculture. For instance, a 4000 MW thermal plant may displace about 250 households but would create tens of thousands of new jobs by providing power to small industry and tubewells that would increase both gross cropped area and productivity. At present the share of urban dwellers in total population of India is 32 percent, but they occupy only 6 percent of the total area of the country. Thus growth through industrialization and urbanisation would not only increase labour productivity but will reduce pressure on farm land by pulling people away from land to non-farming occupations. However, land acquisition has emerged as the most important structural constraint in India to the process of fast industrialization and improvement in infrastructure. Delays in procuring land leads to uncertainty and cost escalation, and thus affects development.

Acquisition of land by government has lately drawn resistance in many cases due to inadequate compensation for the land and loss of livelihoods of the affected people, as well as for involuntary displacement without proper rehabilitation. Moreover, people are not willing to give up their present dwelling and occupation of farming for a dark future totally dependent on the vagaries of market. The present land acquisition law has been quite hostile to the interests of the landowner, as it attempts to make land available to industry through government at a minimal price. So far the practice in most state governments has been to coerce

The author is Member, National Advisory Committee.

people to give up their lands by using the legal powers of eminent domain, and in some cases even through the use of force. Thus the model followed has been, 'let some people lose out so that others (this includes some enterprising poor too) may gain'. Unfortunately the losers tend to be the poorest with little skills, often tribals, who are unable to negotiate with the market forces and cope with the consequences of their forced expulsion from land, and end up much worse off than before acquisition.

Some estimates suggest that at least 60 million people were displaced between 1947 and 2004, amongst whom at least 40 percent were tribals and 20 percent Scheduled Castes. Of those displaced, less than 18 percent were resettled. This has turned millions of independent producers into property less labourers, which could have been avoided with imaginative land acquisition and rehabilitation policies.

Rising conflicts over forced acquisition

Before 1990, most land was acquired by government for large irrigation projects, public sector enterprises, and other explicit public purposes such as new townships of Chandigarh, Gandhinagar, and Bhubaneswar, and therefore the use of coercive legal powers carried at least some credibility in the eyes of the public. In the last two decades however powers of eminent domain have also been used for acquisition for private industry and real estate, which is driven, not by the 'noble cause of national development, but profit motive'. Though such private enterprise may contribute to direct and indirect employment generation, people's perception of these activities being in 'public interest' is generally negative, and therefore they are less tolerant of being made to leave the area or accept unfair compensation. Consequently, there has been growing protest and militancy leading to tension, conflict and violence, besides litigation that increases uncertainty and costs involved in delayed possession of land.

Low compensation is not the only cause for resistance. It is also because of trust deficit that exists today between government and the peasantry because the promises made to them on earlier occasions for rehabilitation and settlement have not been fulfilled; and the compensation amount has been uncertain and irregular. Thousands of families displaced by various projects are still awaiting compensation payments. In a few cases, those displaced in early 1970's are yet to receive compensation. In many cases the true beneficiaries are the absentee landlords and intermediaries, but not the poor peasantry.

The new Land Acquisition and Rehabilitation & Resettlement Bill (LARR), 2011 –An Overview

The problems discussed above can be addressed only by making radical changes in the present Land Acquisition Act, 1894. The Ministry of Rural Development, Government of India, in consultation with the National Advisory Council (NAC), has in 2011 introduced a new Bill in Parliament which has tried to do justice to the people affected by compulsory land acquisition, and at the same time ensure that land is made available for infrastructure and other public purposes without any hassle.

Some of the salient features of the Bill are described below.

Consent and compensation

If land is acquired by Government for public sector companies, or PPP projects, or for private companies for the production of public goods or provision of public services, consent of at least 80 percent of the project affected people (this includes both land owners and those dependent on that land as agricultural labour, tenant, etc.) shall be obtained through a prior informed process. In other words, land would be acquired by government for private companies and PPP projects only when at least 80 percent of the project affected people (PAPs) have given their written consent. Even when initial possession is with government but it acquires land with the ultimate purpose to transfer it for the use of private companies for stated public purpose (including PPP projects) consent would be required.

Obviously people will give their consent when they are happy with the compensation and relief package. Therefore for all acquisition, including when land is needed solely by government, compensation would be increased to a minimum of four times the present registered value of that

land in rural areas, and double the registered value in urban areas. This includes solatium.

Often land values go up after acquisition and the original owners feel cheated when they find that their land after a few years is being sold for ten times the price that was paid to them. Therefore, whenever land acquired by government is transferred to an individual or a company for a consideration, 20 percent of the difference between such consideration and compensation will be given to the original land owner. For future transactions too, there should be a capital gains tax on land value, a part of it to be shared with the people who lost land, so that they too benefit from the increases in future value of land. Fundamentally, the problem is one of guaranteeing to the original owner of land a fair share in the augmented value of the land in future for at least twenty years, as the value can really shoot up once the land is put to non-agricultural use.

The Urgency Clause can only be invoked in the following cases:

1. National defense and security purposes
2. R&R needs in the event of emergencies or natural calamities

R&R package

Irrespective of the area involved in acquisition, all project affected people including the landless who lose their livelihoods would be entitled to the following package:

1. Subsistence allowance at Rs. 3000 per month per family for 12 months;
2. The affected families shall also be entitled to:
   (a) Where jobs are created through the project, mandatory employment for one member per affected family
   or
   (b) Rupees 5 lakhs per family;
   or
   (c) Rupees 2000 per month per family as annuity for 20 years, with appropriate index for inflation;

   The option of availing (a) or (b) or (c) shall be that of the affected family.
3. If a house is lost in rural areas, a constructed house shall be provided as per the Indira Awas Yojana specifications. If a house is lost in urban areas, a constructed house shall be provided, which will be not less than 50 sq mts in plinth area. In either case the equivalent cost of the house may also be provided in lieu of the house as per the preference of the project affected family;
4. One acre of land to each landowning family in the command area, if land is acquired for an irrigation project;
5. Rs 50,000 for transportation;
6. A one-time 'Resettlement Allowance' of Rs 50,000;

In addition to the above R&R package, SC/ST families will be entitled to 2.5 acres of land or extent of land lost to each family in every project, and one time financial assistance of Rs. 50,000 per family.

Where land is acquired for urbanization, 20 percent of the developed land will be reserved and offered to land owning project affected families, in proportion to their land acquired and at a price equal to cost of acquisition and the cost of development. In case the project affected family wishes to avail of this offer, an equivalent amount will be deducted from the land acquisition compensation package payable to it.

NAC has calculated that in most cases, the total cost, which the industry will bear, will not be more than 2 percent to 5 percent of the project cost. For instance, the total project cost of POSCO is Rs 54,000 crores and it will displace 700 households. If POSCO had decided to spend even 1 percent on the displaced people, each one of them would have received Rs 80 lakh as compensation. Similarly, a 4000 MW thermal plant would cost about Rs 20,000 crore and would displace about 250 households. Here again earmarking a little more than 1 percent would make each displaced family a crorepati!

Therefore, the industry should be quite happy with the above proposals because they would get quick possession over land plus good relations with the people. This will also help avoid delays in implementation of such projects. It is delay which is the main cause for escalation in the project cost.

Timelines

1. Compensation will be given within a period of three

months from the date of the award;

2. Monetary R&R entitlements will be provided within a period of six months from the date of the award;
3. Infrastructure R&R entitlements will be provided within a period of eighteen months from the date of the award;
4. No involuntary displacement will take place without completion of R&R;
5. In irrigation or hydel projects, R&R shall be completed six months prior to submergence

Large Projects

Each large development project (involving transfer or change in land use of one hundred acres of land or more, or affecting hundred families) must be first subjected to a legally binding holistic appraisal as to the desirability and justifiability of the project. The public, and particularly the people likely to be affected, must be given due opportunities of information and hearings, and allowed to examine all aspects of the project, including the 'public purpose', and also the possibilities of achieving the same objectives through non-displacing or less displacing alternatives.

Wherever the people are not willing to give their land or shift, it must be assumed that the fault is either in the package being offered, or in the progress of implementation or in the approach to the displaced communities. Alternatively, it could be because the implementation of resettlement and rehabilitation programmes in other cases has been so unsatisfactory that the affected people do not feel confident of receiving what they have been promised. In any case, this must be recognised as a failure of the rehabilitation process.

Recommendations of the Parliamentary Committee

The proposed Bill has been examined by a Parliamentary Committee, which has recommended that no acquisition should be done for private companies, and they should be forced to buy the entire land directly from landowners. Profit enterprises will have to purchase land in the open market. This recommendation may help farmers of the developed regions who are aware of the market conditions, but may result in large scale cheating and deception in tribal and remote areas where goondas will be hired by the land mafia and tribals will be forced to sign land transfer deeds. In any case, in many central Indian states tribal land cannot be sold to non-tribals through market transactions. To get possession over such lands, industry would have to use extra-legal methods of showing sale in the name of some non-existent or compliant tribal. It may also legalise transfer of land that originally belonged to tribals, but is now alienated from them, and has not been restored back to them despite laws to the contrary. Moreover, land records are hopelessly out of date in many states, which will delay private transfer of land. Often, land is cultivated by the poor, especially tribals, but their possession has not been recorded in the official documents. Such people would be compelled to give up their possession without any compensation.

Further, land purchased under "lawful contract" will not carry the responsibilities of R&R, which will deprive benefits that are proposed under the Bill to the landless livelihood losers. Besides, even in developed areas where farmers are aware of markets it is seen that small farmers are the first ones to sell to a buyer as they need immediate cash to meet other pressing exigencies, and large farmers who delay their sale are able to get a higher price, often several times what was paid to the small farmers.

The Bill in fact does not rule out the possibility of willing-buyer and willing-seller negotiations. In fact by increasing the cost of acquisition several times than the present practice it gives a signal to the industry to discourage approaching government for acquisition. In any case GOI cannot legislate on land purchase, which is a state subject. The Bill gives an option to the farmers who could say 'no' to industry if they think that government would offer a better package. The same choice is available to those seeking land; either negotiate directly or go to the government.

The stand of government on the recommendations of the Parliament Committee is not yet known (June 2012). It is likely to be finalized in the coming few months. ❑

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The Challenge of Planning for Women

Nirmala Buch

The 1970s saw the beginning of the gender revolution and the conscious articulation of women's aspirations

THE 20th century will always be known for the major transformation in Gender Revolution. "The women's movement and a pro-women commitment to social change – or a feminist perspective on diverse dimensions of the change – emerged among different regions and peoples at different points of time. Their engagement with prevailing ideological currents – promoted path ways of mutual influence (Mazumdar : 2012).

The Indian Republic started its course of planned development with its first Five Year Plan in 1952 and its course of planning through the 12 Five Year Plans and intermittent annual plans reflected the gradual understanding of women's question and gender and governance equation and efforts to introduce programmes to address the issues involved. A reflection on its story can "trace the evolution of ideas, strategies, concrete measures in policy/programmes/planning interventions" introduced in India (ibid). It also shows that though the Indian planning has moved beyond "the still persisting invisibility of gender based difference in the outcome of actions by the state or other agencies of society" (ibid.) it is still facing numerous challenges as every initiative brings up new issues and concerns.

Development planners in the first Development Decade (1960-70) and earlier saw women only as passive beneficiaries of social services. This was the case not only in India but also elsewhere. Their active and productive roles were not recognized and not explicitly included in development planning. With the country seen as predominantly with rural population most notably, the focus of the planning efforts of programmes was on rural areas. However, the target groups for rural development projects, for instance , were gender less categories of small farmers and rural poor. Women, particularly rural women were invisible even to those who were looking at village life, livelihoods and experiences. The story of the Indian journalist, who published a series of stories of village life based on his visits, and spoke of men who owned land, who laboured on it, and of their

The author is a retired IAS officer, deeply engaged in issues of gender, governance and decentralization.

livelihood strategies etc. but never spoke of women , is an example of this invisibility. "when asked why not, his answer was simple: he had not seen any". It is an appropriate metaphor for the basic problem "policy makers simply did not see women" (Naila Kabeer :1995).

The first Five Year Plan in India addressed the issue of women's welfare and spoke of women's legitimate role in the family, of allowing the women to fulfill this role, plus the expected role in the community – and promoting adequate services for their welfare (Para 29, Chapter 36). In conceptualizing women in major policy thrusts during the first three decades of planning, women were conceived as a target group only (a) in the Community Development Programme, (b) in educational and health services, and in (c) creating infrastructures for promoting people's participation. The Third and Fourth Plans accorded a high priority to education of women and measures were introduced to improve maternal and child health services, supplementary feeding for children and nursing and expectant mothers.

With rising unemployment, poverty and agrarian unrest, the nineteen seventies brought emphasis on distributive justice and reduction of inequality. In conceptualizing their concern for women, however, planners continued to view their needs primarily in the context of distribution of social services, which generally received low priority in resource allocation. The nineteen seventies also brought women to the forefront of development concerns with the publication of Report of the Committee on the Status of Women in India (CSWI) in 1975, the observance of the International Women's Year in 1975, and the preparation of a National Plan of Action for Women. Initially development projects had the implicit assumption of being potentially and equally beneficial to both men and women. When the studies and writings of scholars, most notably, Ester Boserup's 'Women's Role In Economic Development', highlighted the important role women were performing in agriculture, special projects were introduced particularly by external donors. These were later popularly described as Women in Development (WID) projects. In an era when resources for women' programmes were limited, these were seen as quite significant. The nineteen seventies, in fact, saw the "Women in Development" (WCD) approach in literature as well as in development praxis.

The 1970s saw the beginnings of the gender revolution and the conscious articulation of women's aspirations. The expectation was that the recognition of women's concerns and needs would be followed up by state addressing them through its policies, plans and programmes. There was implicit faith in the ability, capacity and willingness, of the state to initiate suitable programmes.

The evolution of the new strategy for the Sixth Five Year Plan in this decade starting with Draft Plan (1978-83) and finally the Sixth Plan (1980-85) showed a vibrancy and excitement of debate on introducing programmes and projects for women in the aftermath of these developments and evidences of inequalities and unevenness in women's access of benefits of development. But, it was also seen that, there was construction and reinforcement of gender inequalities within the purportedly neutral institutions involved in formulation and implementation of development plans and policies. Hence, networks and alliances of women and their organizations and the development planners particularly in the social sectors developed who continued to push for attention to women's issues in development planning. The implicit struggle was for women's visibility as producers, workers and agents for change and as citizen actors in governance and not only as beneficiaries of programmes of (a) social service delivery, and (b) support for their reproductive role and the role of unpaid care givers.

The focus was to be on considering women as a separate target group in development programmes and addressing the issue of their invisibility, value of their unpaid work in data and improved focus on enhancing skills and promotion of their grass roots organisations.

In the 1960s and 1970s, the goals of women's movement and of the world wide campaign to limit population growth were seen as compatible with stress on the need of women's income and employment and its having a negative impact on fertility trends.

The Sixth Plan (1980-85) which, for the first time, included a separate Chapter on Women and Development spelt out the strategy for women with basic approach of family as a unit of development and within this, economic emancipation of the family with specific attention to women, education of children and family planning to constitute three major operational aspects of the family centered poverty alleviation strategy.

The 1980s saw awareness about the need for women's participation in planning and development. The invisibility of rural women's work, the labour force participation data ignoring their engagement as unpaid family workers and in free collection of food and services as they were not considered to be "gainfully employed" were seriously debated. The non-recognition of women as independent economic units was also seen reflected in low wages and under evaluation of their work.

The evolution of poverty alleviation programmes with focus on providing employment, self-employment and creation of productive assets, starting with the Rural Employment Projects (RMP), NREP, Food for Work, JRY, RLEGP, EAS and now MGNREGA have included at least a stipulated minimum number of days employment in a year to women and its monitoring. The guarantee of 100 days employment in a year on minimum wages is even incorporated in the Rural Employment Guarantee Act. However, the guarantee is to the household and not to the individual women. Similarly, in self-employment to the rural poor, the identification and selection for IRDP and its successor programmes is of the poverty households and not of its individual members – men or women who are then selected from these households.

The planners face the challenge of reaching the targeted women but only through the family. This persistence with reaching them through the household ignores the intra household dynamics and its consequences.

A significant constraint and challenge in planning for women is of addressing the patriarchal resistance and attitudes. These get reflected in the programme focused on women not getting adequate resource allocation and/ or becoming mainstream flagship programmes as happens, for instance, in programmes focused on other targeted social groups. A programme for women though well conceived will be tried in few selected blocks and districts and loses stream before it can be universalized as a massive programme. We see the programmes of DWCRA, SABLA, nutrition programme for adolescent girls as examples of this approach. The result is that when in a study of impact of women PRI members sought to see it in knowledge and awareness of women specific programmes, it was found to be not very high. When women were given reservation on one third seats of members and of chairpersons posts in Panchayats and urban local bodies, they were widely perceived as proxy for their male kins and the impression is not changed even where they are active representatives. The officials also find it convenient to deal with their male kins.

Legal reform is another area in which the state has acted by enacting new laws and amending earlier ones. Thus the Restraint of Child Marriages Act has been replaced by more comprehensive law namely, the Prohibition of Child Marriages Act which has more effective provisions to prevent and deal with child marriages five years ago. Laws have been enacted to address the issue of selective sex determination and foeticide and infanticide. The PCPNDT Act has been amended and effort has been made to make it more fool proof, but what has happened in their implementation? We have also to see the impact of Prevention of Domestic Violence Act and its safeguards for women – in appointment of officers and their number. The unevenness in implementation of these pro women laws and in provision of the required institutional structure is due to only apathy or it is reflection of the patriarchal resistance to bring the women friendly changes in attitudes and practices.

The operationalization of allocations of resources and plan programmes have introduced, from time to time, a component plan, gender budgeting and gender mainstreaming to ensure that women's concerns are addressed in all programmes and not only in women specific programmes. In the ministries and departments women's cells and focal points were introduced but they were seen as under resourced and under powered in their mandates.

So what are the challenges for planning for women in India in view of the experience of all the initiatives introduced so far? Can the planners move from the household based approach to women in the households to ensure equitable benefits to them in the publicity funded programmes. What can be the strategies to address the patriarchal apathy and resistance to make governance and gender equation a reality? Is the state itself being patriarchal in making its programmes not conform to the rhetoric and objectives of gender just governance and of empowerment of women in the allocation of resources and in the implementation of laws? We need to introspect. Women have shown themselves equal to every challenge. When they have had access to education they have outperformed the male candidates. Their contribution to the family and to the state is valuable. It is so even when they do so with shouldering multiple roles and responsibilities at home and outside. The planning for them has to be not as for a weaker section but with recognition of their potential as equal citizens. The programmes should reach them as individuals and not only as members of specific households. If the discourse today is of women's empowerment, it should be followed in planning and implementation to enable them to develop their potential and not with an approach of treating them as passive beneficiaries even unconsciously. Women who have been entering rural and urban local bodies in every election are a powerful resource. Let them not be constrained by inadequate decentralization of powers and programme resources and free play of subtle patriarchal capture. ❑

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Land Reform: Need For More Speed

NOW THAT the monsoon is in full swing in most parts of the country, our thoughts naturally turn to the kind of harvest we will have. For many centuries our thinking has been conditioned in this way; "Good monsoon, good harvest. Bad monsoon, famine." The danger of continuing to think along these lines is that we tend to explain away our successes and failures as entirely dependent on the elements. We do not give human endeavour the importance it deserves and we are not demanding in our standards of performance. Since we are talking of rains and harvests, let us illustrate this from some of the steps we ought to have taken to increase our production of food. The most important of these is the progress of land reforms—the pace at which we are implementing our policy of giving land to the tiller and eliminating land-lords and middlemen.

We have made significant advances in our land reform policy but we are still a long way from our goal. Progress has been uneven even in regards to non-controversial issues, such as giving tenants a sense of security against ejectment and stopping landlords from demanding unfair rents. There have been large-scale evictions of hapless tenants by landlords under the guise of voluntary surrenders and instances of landowners getting away with about one-half of the gross produce of land in lieu of rent are not wanting. Only a few States have been able to carry out the policy of fixing a ceiling on the holdings of land and the consolidation of holdings even in States like Bombay, the Punjab, Uttar Pradesh and Madhya Pradesh which have gone ahead is far from satisfactory. There has neither been the necessary preparation of ground nor the training of personnel required to put it into effect. With these preliminaries still unfulfilled, the goal of co-operative farming seems somewhat remote.

Shri Subramaniam, Finance Minister of Madras is of the opinion that there is little chance of carrying out land reforms unless the co-operative system is brought in alongside. Co-operatives can provide poor peasants capital to resist eviction by land-lords pay compensation for land acquired for them, and helplandless labourers by giving them surplus land. There is much in Shri Subramaniam's suggestion that the movement for land reform should start with Tenants' Co-operative Societies which would provide the capital required for cultivation and the organization for ensuring that there are no evictions or increase in rent. We do not know if this view of shared by others. The All India Congress Committee has asked a sub-committee consisting of top ranking members like Pandit Pant, Shri Morarji Desai and Shri Dhebar to look into the whole problem and suggest means of expediting the process of reforms and co-operation. We hope they will give the movement the required fillip.

We have done much talking, we have enacted many bills, we have passed innumerable resolution in roughly the same words in a succession of symposia—but the majority of the tillers of the soil are still not owners of the soil. It proves once more that legal and administrative processes are not enough when a nation aims at building a new social order for itself—as indeed village co-operatives aim to do. The people themselves have to will it and back their will with action. ❑

(From the 27th July 1958 issue of YOJANA)

March of Democracy

R C Rajamani

People who do not vote for no valid reason do disservice to the cause of democracy and freedom that has been won after great sacrifices by national leaders

IN A nation's history 65 years is a small period. India, which has completed 65 years of independence, is still a young nation. The Country with a civilization of several millennia has been able to survive as a democracy despite challenges posed to it in the last six decades and more.

Not only that, the nation has made giant strides in diverse fields in this short span and has emerged as an economic power to reckon with in the comity of nations. It is already seen as an Asian superpower.

India passed the first test of democracy in 1952 when the first general elections were held. Since then 14 more general elections have been held and power transferred from one party to another and one coalition to another in a smooth, peaceful manner. There has been no vacuum whatsoever in governance. This is seen as democratic India's triumph, especially viewed against instability in the rest of South Asia that has often witnessed overthrow of elected governments to be replaced by military despots.

The young nation gave voting right to everyone who was 21 and above, irrespective of gender, caste, creed or community. Years later the voting right was also given to those who are 18 and above. By giving voting right to women in its very first elections, Indian democracy scored over other modern democracies such as Britain and USA where it took a long time before women were given the franchise. The country became a full fledged Republic in 1950 with a Constitution framed by a sagacious leadership.

The first general elections in 1952 were a virtual test for India's ability to succeed as a democracy following independence from Britain in 1947. They were the first to be held under the new Constitution, drawn up broadly on the pattern of British parliamentary system.

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In 1952, there were 176 million people eligible to vote, although only 15 percent were literate. In 2009, in the last general elections, the numbers had grown manifold. An electorate of 714 million were eligible to vote to elect their lawmakers from 1,055 political parties including seven national parties and a plethora of regional and state parties.

May 13, 1952, was a red letter day in India's march of democracy. It was the first day of the first session of the first Parliament of India. Both Lok Sabha and Rajya Sabha met at quarter to eleven in the morning. In the Lok Sabha, G V Mavalankar was named the interim Speaker and President Rajendra Prasad advised all the newly-elected members to take the oath or make the affirmation before him. Before beginning the process, Mavalankar made a disclaimer that all the names would be pronounced correctly, as far as possible. "...still if there be any mistake, I trust the honourable members concerned will generally excuse the same." This aspect was a true reflection of India's rich diversity, ethnic, linguistic, religious and social.

The Lok Sabha as a House with divergent voices and views displayed its character on the very first day. Prime Minister Jawaharlal Nehru moved a resolution proposing Mavalankar's name for the Speaker's post. It was seconded by Minister of Parliamentary Affairs Satya Narayan Sinha. Immediately after this, A K Gopalan of the Communist Party of India and an MP from Cannanore moved a counter-resolution proposing Shankar Shantaram More's name. T K Chaudhuri from Berhampore seconded the motion.

Dr Lanka Sundaram, an Independent member from Madras, tried to work out a truce by asking the ruling party to accept the Opposition's candidate as Deputy Speaker in lieu of the Opposition's support to their candidate for the Speaker's post. He was, however, opposed by the members.

Mavalankar was declared the Speaker after a voice vote. The defeated candidate, however, got up to register his regret over the move. After congratulating Mavalankar, he reminded the House of the conventions followed by the British House of Commons, from which the Indian Parliament had drawn many practices. "Unfortunately, some of these conventions have become a casualty even at the very first meeting of our House," he said. He cited the English convention of getting the minority members to propose and second the name of the Speaker so as to assure them that the Speaker will protect their interests in an impartial manner. He said the leader of the ruling party proposing the name of the Speaker and another prominent leader seconding the name casts a shadow over the expected impartiality of the Speaker.

Regretting the manner in which the Speaker was elected, Jan Sangh founder Syama Prasad Mookerjee said, "I am not very happy at the way in which the establishment of sound conventions has been retarded in the selection of the Speaker." Addressing the Speaker, he said, "Of course, the size of the treasury benches and the Government party is big enough but still, for the first time in free India, we are going to have a Parliament where the Opposition will not be negligible. It will be for you to see how conventions and traditions are respected so that a healthy constitutional life may develop within the walls of this House."

After congratulating the Speaker on his selection, MP Sucheta Kriplani asked him to safeguard the interests of all political parties and not be influenced by the large number of Congress MPs. "Not only the members of the Congress party but members of various other political parties and Independent members are representing the people of India in this House. Many of these parties are numerically small but I trust all the rights and privileges, not only of all the parties but of each member would be safe in your hands." Several other members expressed their anxiety over the Congress "steamrolling" its agenda at the cost of smaller parties and minority interests.

The free and frank expression of views was indeed democracy functioning at its best. And this happened on the very first day of free India's Parliament. And this continues to happen in the present day.

Women were in a clear minority in the House. There were around 20 women in both the Houses

put together. The Lok Sabha had less than 10 women. Prominent among them were Rajkumari Amrit Kaur, Sucheta Kriplani, Uma Nehru and Ammu Swaminathan and G Durgabai. The maximum number of women, four, were from Madras.

Now, for a glimpse of the profile of the members of the first Lok Sabha. A majority of the members of the first Lok Sabha were graduates. A large number, at least 75, were law graduates with a significant number among them being post graduates in law. At least 35 members held masters in arts or science. More than 15 were educated abroad. Some prominent names among them were B R Ambedkar (Columbia University, the US and the London School of Economics), Pandit Jawaharlal Nehru (Harrow School, Trinity College, Cambridge), Major General Himatsinhji (Malvern College, Oxford), Sardar Vallabhbhai Patel (Middle Temple, England), Hriday Nath Kunzru (London School of Economics), H G Mudgal (New York College).

Today India's Parliament boasts of fewer under-matriculates, more post-graduates. The percentage of MPs without secondary education has decreased from 23 percent in 1952 to 3 percent in 2009. The percentage of graduates has increased from 58 percent in 1952 to 79 percent in 2009 (This includes MPs with post-graduate and doctorate degrees). More MPs have post-graduate degrees than in 1952. The percentage of post-graduates has increased from 18 percent to 29 percent.

As for age, fewer MPs are under 40 and more MPs over 70 in Lok Sabha. There has been a noticeable shift in the age profile of MPs. The percentage of older MPs has increased significantly. In 1952, only 20 percent of MPs were 56 years or older. In 2009, this figure had increased to 43 percent.

In the first Lok Sabha, there was no MP over the age of 70. This number has risen to 7 percent in the current Lok Sabha. The number of MPs below 40 has decreased from 26 percent in 1952 to 14 percent in the current Lok Sabha.

Women MPs are younger than their male counterparts. At the beginning of the 15th Lok Sabha, the average age of women MPs was 47 while the average age of male MPs was 54 years. There were no women MPs over 70 years of age.

The current 15th Lok Sabha has the highest number of Women MPs. women constitute 11 percent of the 15th Lok Sabha. In comparison, only 5 percent of MPs in the 1st Lok Sabha were women.

Though the percentage of women MPs has increased over the years, it is still lower in comparison to some countries. These include Sweden (45 percent), Argentina (37 percent), UK (22 percent), and USA (17 percent).

The Women's Reservation Bill, passed by Rajya Sabha in March 2010, is currently pending in Lok Sabha. The Bill proposes to reserve one-third of the seats in Lok Sabha and state legislative assemblies for women.

Lok Sabha met for an average of 127 days in the 1950s and Rajya Sabha for 93 days. This has decreased to 73 days for both Houses in 2011.

Departmentally Related Standing Committees were instituted in 1993. Since then, Parliament refers many Bills/ issues to these committees for detailed analysis. This work happens outside the scheduled sittings of Parliament.

The number of Bills passed by Parliament has declined over the last few decades. The first Lok Sabha passed an average of 72 Bills each year. This has decreased to 40 Bills a year in the 15th Lok Sabha.

Parliament passed 118 Bills in 1976. It was the period of Emergency, the solitary, sad chapter in the annals of the nation's democracy. This was the highest number of Bills passed by Parliament in a single year. The lowest number of Bills was passed in 2004. In this year, only 18 Bills were passed by Parliament.

All this shows that democracy has worked well, albeit with its faults. There are certain democratic duties that are enjoined upon every citizen. Here the record of the citizen needs to be vastly improved.

Election through voting by secret ballot is the lifeblood of democracy. The saying goes that the price of democracy is "eternal vigil." No doubt, the vigil is expected to be kept by responsible voters by never failing to exercise their franchise in any election; be

it to the local ward or to national parliament.

Keeping the importance of voting in mind, the Election Commission is observing the National Voters' Day every January 25. Observed on the foundation day of the Election Commission of India, the main purpose behind celebrating the day is to encourage young voters to participate more in the election process.

Only a high percentage of voting will reflect the true democratic choice of the electorate. Unfortunately, for a variety of reasons, voting in national elections in India has been between 60 and 65 percent on an average. Ideally the voting should be at least around 75 percent to 80 percent if not more to truly reflect the democratic mandate.

However, strangely in India, the participation in voting by the educated and the well to do has not been up to the mark. It is the teeming millions, the poor and the underprivileged who appear to vote in larger numbers and with enthusiasm. People who do not vote for no valid reason do disservice to the cause of democracy and freedom that has been won after great sacrifices by national leaders.

The voter's day is in fact a reminder to such people to wake up and vote; to respect democracy and freedom. Out of about four crore new voter registrations done in the country till January 1 this year, 1.11 crore are in the age group of 18-19. This is more than double the number of young people registered last year.

Youth, considered to be the future of the nation, appears to evince lukewarm interest in the democratic process. For, hardly 15-20 percent of people in the age of 18-19 are registered voters. It has been found that of the registered voters under the age of 25, very few participate in elections by casting a vote. This trend should change.

Well, how has democracy worked in the area of progress and development?

India at the time of independence had a population of less than 40 crore but had to import food grains for its needs. India's first prime minister, Pandit Nehru declared in 1947 "everything can wait but not agriculture". Our scientists rose to the occasion and ushered in the green revolution of mid 1960's that saw India double its food output by increasing the yield per hectare of land by using hybrid, high-yielding varieties of seeds and fertilizers. Today India is not only self-sufficient but also exports surplus. India was totally depended on the western world for all items of science and technology at the time of independence. But today it is a proud member of the science & technology high table. India today is acknowledged as the third largest storehouse in the world for technically qualified workforce.

No doubt, India is also a nuclear power but one which is scrupulous about its peaceful uses. India has made tremendous progress in missile technology as well with the development of Prithvi, Agni and Akash missiles. India's progress in space technology is also phenomenal. So much so India is also a player in space commerce.

On 15th August 1947, life expectancy of an average Indian was 28 years – it is more than double now. Literacy rate was 14 percent - it has been quadrupled. The GDP has increased around 6 times. The percentage of Indians living below the poverty line has become around half of what it was.

But challenges still remain. For once, India needs to completely eradicate poverty. For another, it has to make itself 100 percent literate. Its health programmes and schemes must reach all population. It is pertinent to recall Prime Minister Dr Manmohan Singh's last Independence Day speech: "It is important to see an India that is not divided by caste, creed or gender, an India in which the weak and downtrodden are empowered, the disabled find support, the destitute find succour and every individual is touched by the hand of progress and development, an India in which no person or region is left out of the journey of development and progress, an India in which every citizen can live a life of dignity, self-respect, decency and hope where every citizen feels proud to say-I am Indian!". ❑

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DO YOU KNOW?

HIGGS BOSON PARTICLE

What is the Higgs Boson?

In a quantum leap in physics, scientists have claimed to have spotted a sub-atomic particle "consistent" with the Higgs boson or 'God particle', believed to be a crucial building block that led to the formation of the universe. In a major milestone in the 50 year search for the elusive Higgs, that is believed to have been responsible for lending mass to the particles that eventually formed the stars and the planets after the Big Bang 13.7 billion years ago. The discovery of a particle consistent with the Higgs boson opens the way to more detailed studies, requiring larger statistics, which will pin down the new particle's properties, and is likely to shed light on other mysteries of the Universe.

Joe Incandela, the leader of CMS, one of the two teams at the world's biggest atom smasher, told a packed audience of scientists at the European Centre for Nuclear Research (CERN) that the data has reached the level of certainty needed for a "discovery". But he did not yet confirm that the new particle is indeed the tiny and elusive Higgs boson, which is believed to give all matter in the universe size and shape. A second team of physicists Atlas also claimed they have observed a new particle, probably the elusive Higgs boson but a little more time is needed to prepare these results for publication.

Why is it called 'God particle'?

The Standard Model is a hugely successful theory but has several gaps, the biggest of which is why some particles have mass but others do not.

Mooted by Higgs and several others, the boson is believed to exist in a treacly, invisible, ubiquitous field created by the Big Bang some 13.7 billion years ago. CERN uses a giant laboratory where protons are smashed together at nearly the speed of light, yielding sub-atomic debris that is then scrutinized for signs of the fleeting Higgs. The Higgs has been dubbed the "God particle" because it is powerful and everywhere, yet so hard to find. Over the years, tens of thousands of physicists and billions of dollars have been thrown into the research, gradually narrowing down the mass range where it might exist.

How was it found?

A 'Higgs boson-like particle' has been discovered at the $10bn Large Hadron Collider, 300ft underground near Geneva. LHC is designed to accelerate protons to very high speeds and then smash them together to create tiny fireballs, recreating conditions that prevailed when the universe was less than a trillionth of a second old.

Why is the finding important?

The discovery would confirm the standard Model of physics. Other particles predicted by this theory have already been detected. With the missing Higgs boson now believed to be discovered, scientists can look at other riddles of the cosmos-like the mysterious dark matter and energy, antimatter, supersymmetry etc with more surety.

What have been the life-altering experiments at CERN?

a) Medical Imaging

Particle physics experiments at CERN and other labs have paved the way for new medical imaging technologies such as Positron Emission Tomography (PET) which has stemmed from general studies of antimatter and the use of particle detectors. Several new imaging techniques are at various stages of commercialization.

b) Parallel Computing

The millions of collisions that take place inside an atom smasher generate tons of data, which requires a great deal of computing power. Parallel processing and grid computing technologies were developed to analyze this data, and later became commercially available.

c) World Wide Web

The most famous contribution of CERN is the World Wide Web, which was first proposed by Tim Berners-Lee in 1989. In 1991, it was made available to the community of high-energy physicists via the CERN library and subsequently was freely accessible on the Internet. The idea was to combine PC technologies, information network and the hypertext into one global information system.

d) Cancer Therapy

In the most recent developments in cancer therapy, accelerators using particles called hadrons have been adopted to improve results of conventional radiotherapy. The advantage of using hadrons is that they deposit all their energy in the same spot, which helps in targeting tumours without harming healthy tissues. Proton therapy is another new form of cancer treatment to selectively target and destroy tumour cells.

e) Solar Energy

Using ultra-high vacuum technology, CERN has developed and extensively tested a new type of flat panel solar collector. It is suited both for heating and for cooling, and can be used for water desalination, drying crops, and so on. These panels can actually produce electricity with efficiencies similar to those of photovoltaic cells. ❑

Agricultural Development

Surinder Sud

But if these are addressed through well-conceived agricultural development policies, the future of Indian agriculture can surely be better than its past

THE INDIAN agriculture has traversed a noteworthy distance, albeit on a patchy track, in its transformation from food crops-based subsistence farming at the time of Independence to a diversified, market-oriented agriculture now. The broad direction of this diversification has been towards high-value commodities as reflected in gradual, yet steady, rise in the share of horticulture, livestock and fisheries in the overall agricultural gross domestic product (agri-GDP). The initial period, however, witnessed faster growth in the production of foodgrains, especially wheat and rice, in responce to the need for ending food shortages and dependence on food imports. But subsequently the output of non-food crop also began to surge. However, disquietingly, many of the drags that constrained the farm sector at the time of Independence have endured. These include, among others, unduly heavy burden of population and workforce that depends on agriculture for livelihood, fragmentation of land into small and even tiny operational holdings, and unabated depletion and degradation of natural resources, especially soil and water. On top of that, climate change has now emerged as a new menace. The net result is that the profitability edge of farming has been severely eroded. A sizable section of farmers, particularly rural youth, want to quit this occupation but are unable to do so for want of alternative avenues of employment and livelihood.

The partition of the country had, indeed, dealt a severe blow to the Indian agriculture. Some of the agriculturally best endowed areas, notably irrigated tracts and the rich cotton-growing belt in the north-west and some key rice and jute producing areas in the east, went to what was then called West Pakistan and East Pakistan. This left India as a net food deficit country with its domestic foodgrain output being low and unstable. The infrastructure necessary for

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supporting farm development was woefully inadequate. The bulk of the increase in farm production in the fifties and sixties came largely from expansion of area under crop cultivation rather than increase in per-hectare productivity. The net sown area expanded from 119 million hectare in 1950 to around 141 million hectares by 1970. It has remained at around that level since then, indicating that the subsequent increment in production has been the result of either rise in crop productivity or increase in cropping intensity thanks to growing more than one crop in a year on the same land. As a result, the agriculture sector has managed to clock positive annual compound growth rates in all the decades since Independence, though the rate has fluctuated from decade to decade. Beginning with 2.6 percent per annum in the 1950s, the compound annual growth rate of the agriculture sector as a whole declined to 1.7 percent in the 1960s, but accelerated again to 2.0 percent in the 1970s, 2.8 per cent in the 1980s and 3.2 percent in the 1990s before dropping to under 3.0 percent again in the 2000s due largely to two severe droughts in 2002 and 2009.

The output of foodgrains (cereals and pulses), however, followed a different course with marked deceleration in the growth rates in the 1960s and again in the most part of the 1990s in the post-economic reforms phase. This can partly be attributed to slackening of priority accorded to agriculture in the second and third five year plans. The growth rate in foodgrain output dropped during both these periods to below the rate of increase in population. However, a series of institutional reforms in the land sector, includeing abolition of Zamindari system and tenancy reforms, carried out in the first plan, did play an important role in facilitating better agricultural growth subsequently, particularly in the post-green revolution period. It was indeed the fourth five-year plan which had, for the first time, truly recognised the role that technology generation and its transfer to farmers can play in boosting agricultural output. This paved the way for the science-based growth of the Indian agriculture. It also facilitated the diversification of agriculture with faster growth of high-value sectors like horticulture, animal husbandry and fisheries, leading to a marked change in the composition of the broad agricultural sector beginning from the early 1970s.

The share of the crops segment in the total value of agricultural output, estimated at around 80 percent between 1950 and 1970, shrank gradually from 1971 onwards and is now only around 67 percent. This is despite the spectacular jump in the production of wheat and rice due to the green revolution from 1970 onwards. On the other hand, the share of livestock sector has surged from around 16 percent in 1950 to over 20 percent now. Similarly, the contribution of the fisheries to the agricultural GDP has swelled from mere 0.6 percent in the 1950 to nearly 4.8 percent in recent years. The share of forestry has, however, fluctuated between 3.6 percent and 5.2 percent during this period.

There has also been a noticeable change in the composition of the crops segment, showing a definite bias towards high value commodities like fruits, vegetables, eggs, meat and sugarcane. The data compiled by the National Academy of Agricultural Sciences (NAAS) shows that while the share of cereals (wheat, rice and coarse cereals) within the crops segment has dropped from 36.2 percent in 1950 to around 30 percent now, that of fruits and vegetables has soared almost three times– from just 8.2 percent to about 25 percent. The share of sugar crops has spurted from 3.6 percent to 7.3 percent since 1950. Pulses and oilseeds have, however, not shown much growth.

Significantly, the linkage between Indian agriculture and markets has also progressively grown. This is true not only for cash crops that are produced chiefly for the market but also for food and other crops, which were earlier associated largely with subsistence agriculture. The numbers compiled by NAAS indicate that in 1950, out of the total rice output of 20.6 million tonnes, only about 6.2 million tonnes, or 30 percent, reached the markets. But by 2007, the proportion of rice output disposed of in the mandis spurted to over 70 percent. In the case of wheat, similarly, this ratio has soared from 30 percent to over 63 percent during this period. For coarse cereals, such as maize, sorghum (jowar) and pearl millet (bajra), the trend is more or less in the same direction. While in 1950, hardly between 24 and 27 percent of the total production of coarse

grains hit the markets, in 2007-08, this proportion soared to between 53 and 76 percent for different crops, the maximum being in maize. The marketed surplus in all the cereals as a group has risen from around 27 percent in 1950 to 67 percent in the late 2000s

The commercialization level of pulses and oilseeds is still higher. The farmers grow these crops mainly for the market, retaining only around 10 percent of the output for use as seed and other purposes. The similar data on marketed surplus for livestock products like milk, eggs and meat, as also for horticultural crops, is not readily available, but the proportion of their production hitting the marketing channels must be even larger than that of the crops segment in most cases, except, perhaps, for milk since a part of it is retained by the farmers for household consumption. Growing export of agro-products is another indication of increasing commercialization of Indian agriculture. The total farm exports are estimated to have surged annually at a robust rate of 14.8 percent. Besides, the basket of agricultural exports has undergone a significant transformation, especially in the past two decades. This is thanks chiefly to the perceptible increase in the export of items like vegetables, fruits, flowers, cotton, livestock products and sugar. The other major agricultural export items include rice (basmati and non-basmati), wheat (occasionally, depending on government policies), oil-meal, spices and marine products. The agri-exports as a whole have, consequently, swelled from worth Rs 6,012.76 crores in 1990-91 to over Rs 90,000 crores in 2009-10.

However, despite the fairly impressive track record, the Indian agriculture still faces some formidable challenges, many of which require policy interventions to surmount. At the fundamental level, India has only 2.3 percent of the world's geographic area, 4.2 percent of fresh water resources and 0.5 percent of pasture and grazing land though it has to support about 18 percent of the world's human population and 15 percent of the total livestock numbers. Besides, though the share of agriculture in the national GDP has dwindled from nearly 51 percent in 1950 to merely 14.5 percent in 2010-11 – which is a welcome trend as it indicates a transition from traditional predominantly agrarian economy to manufacturing and service-oriented economy – the proportion of population relying on agriculture and that employed in this sector has not slimmed proportionately. About 52 percent of the country's total workforce is still employed by the farm sector, which means that more than half of the Indian population continues to depend on agriculture for sustenance (NSS 66th round). As a consequence of inadequate shift of population from agriculture to other occupations and the inheritance laws which require division of land while being passed on to the next generation, the average size of land holdings has shrunk drastically, pushing down a sizable section of holdings to below economic viability threshold. Consequently, the average size of operational holdings, which was 2.28 hectares in 1970, declined to 1.55 hectares in 1990-91 and further down to just 1.23 hectares in 2005-06. Going by the Agriculture Census 2005-06, the proportion of marginal holdings of less than one hectare size has swelled from 61.6 percent in 1995-96 to 64.8 percent in 2005-06. No doubt, modern agricultural technologies are, by and large, scale (read farm size) neutral and the small farms have also been found to be quite efficient producers of farm goods, yet most experts believe that operational holdings below two hectares in the case of unirrigated land and one hectare of irrigated land are economically unviable, incapable of supporting an average Indian farm household of five to six members. This partly explains why the economic status of most of the farmers has not improved to the desired extent, leading to widespread dissatisfaction and distress that was reflected in recent years in a spate of suicides by the heavily indebted farmers

The per capita availability of cultivable land has gradually diminished from 0.48 hectare in 1951 to 0.20 hectare in 1981 and further down to 0.15 hectare in 2001. The land scenario, moreover, is likely to worsen with time due to accelerated diversion of land from agriculture to non-agricultural purposes, such as mining, industries, infrastructure, housing and others. What is worse, the available land is also progressively getting degraded due to various factors, including soil erosion, water-logging, salinity and alkalinity. The top soil's carbon content is gradually decreasing which bodes ill for sustainable agriculture. Major plant

nutrients (nitrogen, phosphorus and potash) and micronutrients (zinc, sulphur and the like), which are vital for healthy crop growth, are also turning scarce due to intensive farming, inadequate use of organic manures and skewed application of fertiliser nutrients. It is estimated that about 5,334 million tonnes of top soil is lost annually due to erosion caused by wind, runoff water and other factors. This causes an annual loss of nearly 0.8 million tonnes of nitrogen, 1.8 million tonnes of phosphorous, and 26.3 million tonnes of potash every year. This aside, about 8.4 million hectares of irrigated land is affected by salinity, alkalinity and water-logging This apart, water, another critical input for agriculture, is steadily turning scarce in many regions of the country, causing widespread concern. It is noteworthy that the total annual precipitation in the country is far from insufficient to meet the requirement, provided it is managed properly. The country's total rainfall, including the monsoon rainfall, is estimated at 1,160 millimetres, equivalent to around 4,000 billion cubic metres (BCM) of water. However, a sizable part of it is allowed to run-off to the sea, taking precious soil along with it. The utilisable water, that is stored in surface water bodies or underground water aquifers, is only 1,123 BCM. This is equivalent to only around 28 percent of the total precipitation. The inability to conserve adequate water and curb its indiscriminate utilisation, including rampant wasteful exploitation of water, is the underlying cause for worsening water shortage. The per capita availability of water has consequently dwindled from 5,694 cubic metres in 1950 to 1,704 cubic metres in 2010. The worrisome part is that the business-as-usual approach will lead to further reduction in the per capita availability of water to merely 1,235 cubic metres which would cause real water distress.

The utilization of available water for agriculture, too, is far from efficient. Wastage of water is huge in surface irrigation systems, (chiefly canal irrigation) because of low water rates and in groundwater irrigation because of subsidised or free power supply for this purpose. This is casing rapid depletion of subsurface water aquifers, resulting in countless dug-wells and bore-wells going dry and many others requiring further deepening to access water. The need, therefore, is to enhance water rates in a manner so as to reflect the scarcity value of this natural resource, as envisaged in the National Water Policy. Besides, the exploitation of both surface and ground water need to be properly regulated.

Thus, the past performance of the Indian agriculture cannot be viewed in isolation from the issues that have remained inadequately addressed right from the time of Independence. Of course, the Indian agriculture has managed to live with such constraints over the past 65 years and may continue to do so for some more time. But if these are addressed through well-conceived agricultural development policies, the future of Indian agriculture can surely be better than its past. ❑

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A Lifetime Spent in Innovations

With a wide experience spanning over 50 years, he developed a series of innovative applications, ranging from customized vehicles for land and water to developing wheels-rides and structures for amusement parks

DURING HIS journey of close to eight decades, Late Nitai Das Gupta, a fabricator, had done a lot of work in developing customized solutions for his clients, for himself and for others. His skill lied in understanding the need and coming up with simple, cost-effective, and efficient solutions. He received the West Bengal State Award of National Innovation Foundation – India in its Fifth National Biennial Awards in 2009. Soon after, in December 2009, he left for his heavenly abode.

Nitai Das was born in Berhampur, Murshidabad district of West Bengal in 1931. His father was a labourer in a tannery. He was average in studies and infact did not like it much. But his school gave him something that remained with him at all times- the skill to write with both hands and that too simultaneously. It so happened, that as a natural left-hander, he used his left hand to write and do things. He was punished by the teacher while thrusting out his left hand to take the chalk from him. (In some local traditions, left hand is considered inauspicious or socially unacceptable) The teacher asked him to use his right hand for writing. This made him train his right hand and he became ambidextrous in simultaneously writing with both hands with equal precision and speed.

Certain financial problems forced him to drop out of school after class eight. In 1942, at the age of eleven years, he opened a cycle repair workshop. Having no agricultural land, this was the main source of income. While picking up various skills in the workshop, he became a self-taught technician and a fabricator.

With a wide experience spanning over 50 years, he developed a series of innovative applications, ranging from customized vehicles for land and water to developing wheels-rides and structures for amusement parks. During the later parts of his years, he cut back on new innovations and spent his

Motor Cycle Driven Ambulance

time supervising workers in his fabrication workshop- Das Gupta Engineering Works. He stayed near his workshop, which was close to Berhampur railway station with his wife and had three daughters who all are married.

The saga of innovative works

Nitai was doing routine bread and butter jobs in his workshop till a brainwave stuck him in 1953. He thought of building a bicycle driven by two people. In three months, he built a unit with five gears with an average speed of 30 km per hour. The five gear system was used to drive on inclines as well as plain roads.

Encouraged by this success, the next year, he built a bicycle driven by three persons simultaneously. By this time he had become quite popular in Murshidabad district for his innovative vehicles and he started receiving orders for developing structural items used in amusement parks, circus and village fairs.

He started manufacturing and supplying wheel sets, *nagardola*, toy model aero plane used in circus and specialized rigs for Durga puja pandals. He started fabricating and selling such custom products to customers all over West Bengal and Eastern India.

Later in 1958, impacted by frequent floods, which washed away roads and marooned people for days, he decided to build an amphibious three-wheeler, which could pedalled across flooded lands and waterways alike. He developed the "Three Wheeler Amphibious Vehicle – Waland".

In 1999, he developed "Motor Cycle Driven Ambulance", which is used to carry patients to hospitals from remote villages. Earlier, considering the need of ambulances in remote villages without petrol pumps, he had developed ambulance unit driven by two people manually like a cycle rickshaw.

Improvising it further, in 2002, he developed "Four Wheeler Vehicle Driven by Four People", which can also be used for transportation or simply as a fun vehicle by tourists. The central portion of this vehicle had a caged receptacle to keep the luggage with the added seating facility for another passenger.

Having built many devices for amusement parks and fairs for decades, Nitai Das developed a good understanding of steel structures, trusses and their capacity. Trying to move off the beaten track, he took up a new challenge and then designed and built a suspension bridge at Jangipur in Murshidabad in 1995-96.

He felt blessed that he consistently received the support of his family members, neighbours and friends in all his endeavours. Having built a lot of goodwill over five decades, it was not surprising that often customers paid him full in advance for developing specific one-off designs.

However, he always felt that he could have done much more in shorter time with the financial support from private organizations and government agencies, which could also have expanded the scope and reach of his innovations. Nitai Das, inspite of his frail health participated in the 20th Shodh Yatra in West Bengal in 2007-08 along with his wife. His life story and the zeal to work even at that prime age inspired most. ❑

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Development of Education in India: 1947-2012

J V Vil'anilam

Education is the planned process of inducing those attitudes and transmitting those skills that are essential for local, regional and national development

MODERN EDUCATION, particularly higher education in India, is considered to have had its beginnings in the middle of the 19th century when the Universities of Calcutta, Bombay and Madras were established in 1857. But English education for the upper classes was carried on in princely, wealthy and elite groups in different parts of the country from the 18th century, although native forms of education were imparted through the Gurukula and other systems in previous centuries, particularly in villages and precincts of religious institutions. The number of people going to school in those days of old was quite limited.

It is only after Independence in 1947 that a more comprehensive system of education for all people in different regions came into being. A separate Department of Education (later on changed to Human Resources Department, HRD) was formed at the Centre and Departments of Education were formed in each State to serve the massive needs of education and training for the entire population. Education for the masses became a laudable goal only after 1947 as the Founding Fathers of the nation felt that education for all (EFA) was a must to achieve socioeconomic, political and cultural progress. One can say that education of the masses became a priority throughout the world in the 20th century. The earlier idea, also called "filtration theory" was that education of the upper classes would lead to a "trickle-down" to the lower levels. Moreover, certain sections of the population, particularly women of all castes and both men and women of the lower caste groups were not to be given any kind of education. Even reading and writing, mathematics and general knowledge were denied to these groups.

The scenario underwent a sea change in the early years of Independent India, although much more remains to be changed even now. With this historical background in mind, let us take a quick glance at the pre-primary, primary, secondary and tertiary

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sectors of education in 21st century India, with some attention on the technical, medical and vocational aspects of overall changes.

Pre-primary education

The Planning Commission of India has stressed the Universalization of Elementary Education (UEE) so that the entire system of education becomes beneficial to the nation. This is why pre-primary education is to be concerned less with education than with the healthcare of the children and their mothers, without which the entry of children into the primary school becomes defective and irregular. Sick and unhealthy children may not go to primary school; even if they go, they drop out after some months or years. Thus no amount of attention on the pre-primary children and their mothers is too much. In fact, children born in a particular village (part of the school district) should be cared for properly by the healthcare system prevalent in that area. The healthcare system becomes equally important for the school system.

Moreover, based on the number of children in the village area, the Panchayat concerned can build a proper school for pre-primary education. It is not enough for the Department of Human Resources to count the number of children of pre-primary age in millions for the entire country and leave the matter at that as a statistical piece of information. The provision of proper buildings and required teachers has to be ascertained and publicized, if necessary, through the local Panchayat so that the Panchayat administration can provide the school facilities for the number of children in the Panchayat. Again, this is a matter to be discussed in detail with local authorities but the HRD has to work with State Governments who in turn will work with the local Panchayat to evolve suitable mechanisms to provide educational and health facilities for all the children of the locality.

Primary Education

If the HRD or the Panchayat is aware of the number of children who need pre-primary education, it is not difficult for them to determine how many primary schools are needed in the village or how many more schools are needed in addition to the schools already available through government and private education agencies. But here one has to go by certain standards such as the facilities to be provided in every school, the number of students in each class, the number of teachers required for the school, the number of well-planned separate classrooms for all the students (instead of having one large hall divided by imaginary lines or actual screens for each class), etc. Each class must have a separate classroom. It is a shame that even in the 21st century, we in India have schools where three or four classes are stationed in a large hall and the students and teachers are subjected to a highly unscientific "sound-mixing" phenomenon that forces each teacher to "out-shout" the other for the sake of his or her students! Why is it that despite all our scientific progress during the past 65 years, we still continue with this system of learning and teaching. Each child in each class must have the "luxury" of learning in an atmosphere of quiet concentration. Is it too much for a child to ask for this basic amenity in modern India?

Certainly, the Sarva Siksha Abhiyan (SSA), the District Primary Education Programme (DPEP), the Mid-Day Meal Scheme (MDMS), the Teacher Education Scheme (TES) and the Kasturba Gandhi Baalika Vidyaalaya Scheme (KGBVS) have worked well in the country and they are still working well in many States. The number of children attracted to primary school education has grown by leaps and bounds, although the number of dropouts on the way is still high.

These schemes have met, no doubt, the massive needs of millions of children requiring primary education. Primary education is now available to children in villages within 1 to 2 kms. This is no mean achievement. However, there are villages where children have to walk for more than 3 or 4 kms. to reach their schools. Perhaps the type of Health and Education Survey (HES) indicated earlier in this article will bring to the notice of the Panchayats, States and the MHRD the actual needs of the children in a more concrete manner. Quoting from a Planning Commission document, "the number of habitations that had a primary school within a distance of one kilometre was 10.71 lakh (87 percent) and the number of habitations that had an upper primary school within a distance of of 3 km was 9.61 lakh (78 percent)."

There are only one lakh habitations yet to be covered for primary (Standards 1-5, Age 6-11 years) and upper primary schools (Standards 6-8; Age 7-14 years) according to the same document.

The progress of enrolment is worth examining in order to understand the volume and the magnitude of our educational efforts and needs. Whereas in 1969, 544 lakh (54.4 million) of lower primary, and 12.5 million

upper primary children were given school education, the corresponding numbers in 2007 were: 1354 lakh (135.4 million) lower primary children and 56.7 million upper primary children.

The number of primary schools in India increased from 6.64 lakh in 2002 to7.6 lakh in 2005. The majority of the new buildings had separate classrooms, and the number of elementary education students increased from 159 million in 2002 to 182 million in 2005. Although this increase is encouraging, the social and gender disparity existing at the primary and upper primary levels causes concern even now, especially in Bihar, Rajasthan, Jharkhand, Madhya Pradesh, Gujarat and Uttar Pradesh. Since education is closely connected with the socioeconomic conditions in a region, problems of child labour, child marriage and parents' male preference play a deleterious part in many regions of the country. In a country with a very large population, all socioeconomic problems have to be tackled district-wise. There are close to 650 districts in India and each district has approximately 2 million population equivalent to the total population of some countries in the West. In fact, some states of India have populations exceeding the combined populations of countries like Sweden, Switzerland, Norway, Belgium and the Netherlands. Therefore our planning and priorities of education should be totally different from those of the Western countries.

But it is important that India is trying its best to provide the growing number of children the infrastructure essential for pre-primary and primary education through five essential steps:

(1) Universal Access
(2) Universal Enrolment
(3) Universal Retention
(4) Universal Achievement and
(5) Equity

These five steps are essential for every sector of education, but they are more essential for pre-primary, primary and secondary education. And with their implementation, we have succeeded in bringing down the drop-out rate from 3.2 crores (32 million) in 2001-02 to 0.7 crore (7 million) in 2005-06. This is indeed a big achievement, but our aim should be to reduce the drop-out rate to zero.

One of the constitutional goals of independent India was to provide universal, free and compulsory primary education for all. Although the number of government schools is almost four times that of private schools, both types of management are equal in their commitment to provide the least number of toilet and drinking water facilities to the children–a very peculiar situation in India. It seems nobody really cares for the health and hygiene of the growing generation of youngsters–parents, teachers, local panchayats, state governments and the Central Government! Our planners and educators have to give more attention to this unique and universal Indian"problem of excretion."

Secondary School Education

We have two types of secondary education in India–Secondary (Standards 9 and Ten) and Higher Secondary (Standards 11 and 12). The Higher Secondary classes used to be part of College Education until the 1970s. They were shifted to High Schools which used to have the final matriculation examination for students in the last class, namely Class 10. For some time, the higher secondary classes used to be called the Intermediate Classes–the first two years in College. But now in most states of India, the Intermediate classes have been shifted to the High School, although a new nomenclature, namely, Higher Secondary has been introduced to describe the Intermediate classes in college. The present practice is to have two types of schools—Secondary and Higher Secondary. It is observed that some educational agencies succeed and others fail in getting the higher secondary classes, and some students do not get selected to the higher secondary stream. Every year we see acrimonious criticisms against governments' educational policies on account of this "Plus One and Plus Two" problem!!

This unnecessary practice can be avoided if High School Education in all States consists of 12 classes as it is done in the U.S. or U.K. It is alleged by critics that some authorities in India perpetuate the system with ulterior motives. Some even point out that "educational corruption" starts at the KG level and carried on to the Plus One level. In fact, no child should be denied the opportunities for a smooth and continuous school education from pre-primary to Standard XII in any part of the country. This national policy will be beneficial not only to the students but the parents, teachers, administrators, and other stakeholders.

No child should be asked to terminate his/her studies with 10 years and look for a job; the child is only sixteen when she/he passes the 10th Standard and most probably it has not been exposed to any practical or job-oriented education. The 10th Standard kid is unfit for any job; and is unemployable, to say the least. All children must complete their school education when they are 18. The age 18 is considered

crucial throughout the world. Those who cross the 18th year are not considered children in any part of the world. And he/she is given the right to vote. To exercise the franchise the young voter must know the fundamentals of democratic politics and an awareness of civic rights and responsibilities. Moreover, the young man or woman should be equipped to take up some job or other.

In almost all countries of the world, school education lasts for 12 years and it is free. There is no rush to college. Those who are genuinely interested and are capable of undertaking higher studies go to college. The inordinate rush to college which we see in India is undesirable and wasteful. Recently, some "married" adolescent girls showed their desire to complete their school education in Tamil Nadu and the school Principal refused them admission. The matter raised a lot of debate and discussion, not only in Tamil Nadu but in other parts of India. Child marriages are still very much alive in India. Sociologically, we are a bit behind as we have not been able to discard the heavy burden of the past, yet. Is it true our education system is superficially advanced but really stymied inside? Well, this is a major subject for discussion but there should be another platform for it. Here we want to examine secondary education and its present condition.

First, the access. The total enrolment in 102,000 secondary schools and 0.50 lakh higher secondary schools is 37 million (370 lakh), equivalent to or even greater than the combined population of several countries in Europe. More surprisingly, there is a 62 percent drop-out rate at the higher secondary level! This should be an eye-opener for educationists. Even higher secondary education is too much for many children, not to speak of college education. What is really needed is vocationalization at the high school level, preferably from the 9th Standard onwards up to 12th Standard. The high school graduate will emerge a useful citizen after 12 years of schooling and with practical skills in several fields.

Even in the study of languages, we have to evolve a new national system (or revive the three-language policy once practised with enthusiasm) by which along with English and Hindi, students in the Hindi-speaking areas, learn at school the language of a contiguous state. For example, a student in UP should get proficiency in the practical use of English and Marathi/Oriya/ Bengali/Telugu and a student in Tamil Nadu should besides earning proficiency in Hindi learn Telugu or Oriya or Marathi–languages of the contiguous states. Language learning is not difficult at a young age and it is fun. This is a matter that needs more deliberation but let us stress the practicality of school education where along with languages, students should get practical skills in technical matters. Their employability in thousands of new engineering and technology jobs opening up in different parts of the country is heightened.

Along with technical subjects, students should be given training in civics, practical knowledge in public affairs and good citizenship, moral values, public service, ethics and responsible behaviour. In 12 years, the high school student will become a good and useful citizen, with the necessary skills in computer operation because the future progress of the country depends on citizens with basic knowledge and skills in computerized digital technology.

The enrolment of students in the Secondary sector during 2004-05 was 14.2 million boys and l0.1 million girls for a total of 24.3 million; for the higher secondary the total was 12.7 million with 5.3 million girls. The drop-out rate during the year was almost 62 percent. The silver lining is that the decline of the drop-out rate in primary to upper primary is getting closer to 90 percent. It is hoped that the drop-out rate will decline further in the years to come with all the new facilities introduced during the 11th and 12th Plans.

The future of Secondary Education in India will be brighter if the two essential changes are brought in:

Twelve years of schooling for every child from age six to 18, with the last four years devoted to certain vocational subjects also so that every child in all parts of India will become a useful, capable citizen qualified to take up some work and maintain a decent living;

All schools in the country will be pucca schools with well-built class rooms equipped with modern gadgets so that all children get an opportunity to learn the latest methods of communication technology, ICT, that will enable them to make use of modern technology in daily life.

There has been commendable progress in providing ICT in schools but much more remains to be done. Moreover, the quality of secondary education can be improved if government and private sectors adopt the National Curriculum Framework, 2005 and recruit qualified, committed and child-friendly teachers who are willing to go that extra mile, when necessary,

to work with the children for their overall development.

There are about 1.4 lakh government and government-aided secondary schools with ICT facilities but the country needs more trained teachers and well-built schools. Many of these schools are likely to be schools with Internet facilities. But there are 28,000 schools in remote areas which require modern facilities and connection with the better developed areas. Some schools are on the satellite circuit and students get the latest programmes on science and technology.

It is hoped that during the 12th Plan more schools will be provided with ICT facilities and satellite connection. The steps being taken now in improving girls' education, bridging social disparities, open schooling, teacher education, etc. will go a long way in streamlining secondary education. And whatever improvement occurs in secondary education will serve in heightening the quality of higher education and research at the College/University level, that is, the quality of the tertiary sector.

Betterment of the Tertiary Sector

Modern higher education in India may be considered to have stated in 1857 when three universities were established in the same year after the fashion of the London University. India had less than two dozen universities and about 500 colleges (both government and private) at the time of Independence; but it has now 30,000+ colleges and 600+ universities including deemed-to-be universities, and almost 15 million students in the higher education stream, making the country one of the topmost higher-education centres in the world. Some of these students are in the Distance Education System. The total number includes technical, engineering, and medicine students, but the bulk of the students are in the arts, business, commerce and science colleges. Most higher education institutions are engaged in teaching, research and extension.

According to many education experts, the university system in India has produced outstanding scholars, scientists, social scientists, engineers, physicians and political leaders of eminence during the past 150 years. But there are scholars who bemoan the fact that the large majority of colleges in India are teaching shops not quite different from the tutorials that coach students for various examinations. Obtaining a degree from a recognized institution–a college or a university–is not a difficult task at all. And many students go for higher education either simply because they have nothing else to do or because of a very close connection imposed by job-givers to university/college degrees. In other words, jobs are not delinked from degrees. Or, college degrees have become passports to jobs. In a highly literate state of India, bus conductors, office clerks and even last grade employees are found to have postgraduate degrees. Some of them have the Ph.D. degree. Why should these people have higher degrees? The job they do (or most often do not do) can very well be done by a high school graduate. This writer once came across at least half a dozen postgraduates appearing for an interview for sweepers! The reason for their applying for last-grade jobs is the tremendous unemployment situation and the stiff competition for jobs. Their earnest belief is that their postgraduate degrees will be given preference in the job interview. This is, unfortunately, the seamy side of higher education in India.

Delinking of postgraduate and even graduate degrees from jobs is a must in India in order to raise the quality of college/university education. There are other issues in higher education, a few of which are mentioned below:

1. **Infrastructural facilities:** Many colleges are situated in crowded city centres and plagued by lack of space for primary needs, physical exercises, games and sports and even fresh air. Colleges should have ample space for curricular and extra-curricular activities, labs and libraries, auditoria and space for recreation, hostels, common rooms, etc. Unfortunately, many colleges do not have these essential facilities.
2. **Affiliation:** This affliction is an old one. Many universities keep under their wings two to three hundred colleges! The universities do not have the administrative set-up to determine what is going on in the colleges affiliated to them because the affiliation system is a cumbersome one.
3. **New method of teaching and evaluation:** Knowledge is expanding by leaps and bounds. Class lectures are not as important as they used to be. Teachers are simply guides to the students who attend classes to exchange views with the teachers and enhance the knowledge they already have. Sometimes the teachers can learn some new things from the students. Both the teacher and the taught in the modern colleges/higher education institutions are regular users of the Internet which provides

many new insights and the classroom is where all of them exchange ideas that they have already gathered.

4. **The Credit and Semester System:** The modern system of education all over the world is offered in assimilable segments of a particular subject unlike what they used to do in the past, namely study a subject comprehensively for one or two years. The modern approach is to divide knowledge into segments and concentrate on the details in 15-16 weeks. The subject can be divided into several courses which the students can study at their own pace in different semesters. Knowledge is changing fast and from year to year fresh knowledge can be incorporated into a course offering if the teachers are alert and sincere about their profession. The expansion of knowledge in many areas is mind-boggling. If we agree that we are in a Knowledge Society in the 21st century, our mode of learning, teaching and evaluation has to change.

5. **Evaluation:** The evaluation has to be continuous. Credit means the number of hours a course is taught during a semester of 15-16 weeks. If the course is taught for one hour a week for 16 weeks, it is a 1-credit course. All over the world, the system of college teaching and learning has been changed to this convenient mode. The teacher who teaches a particular course is the best evaluator, not an outside teacher who sets unfamiliar questions and goes through the answer papers leisurely. In fact, teaching and evaluation should go simultaneously. After evaluation, the evaluated material is returned to the student. Transparency of evaluation is of the utmost importance to build bridges of trust between students and teachers.

6. **Decentralization in Management:** From 1986 onwards, the publication, "National Policy on Education" has discussed this concept and it was reiterated in the MHRD Publication Programme of Acton (1992) but even today the concept has not been fully implemented. These issues have been discussed in my book "Challenges before Higher Education in the 21st century".

7. **Professional Education:** The new educational policy has given the opportunity for many private agencies to start new professional colleges for imparting education and training in engineering, medicine, information technology, computer science, computer applications, business management, business communication, management sciences, nursing, educational technology, imaging technologies, etc. The initiatives taken by several private agencies are certainly inspiring and encouraging and they deserve full appreciation and support by government and educational experts. However, we cannot close our eyes to the corruption that has set in, in at least some institutions that charge very huge "donations" (euphemism for bribery) for undeserving students in the so-called "management quota." In certain legal cases filed by aggrieved students and their guardians, high courts in certain states have observed the injustices and passed strictures against such educational agencies. In a couple of cases, the judiciary has recommended the cancellation of the permission granted to such agencies, and the closure of such institutions where students have performed extremely poorly in their final exams.

Despite all such problems, Indian education scenario embracing all sectors is one of great and gigantic expansion and it is certainly on the upward swing. The steps taken by various agencies such as the UGC, the AICTE, the IMC, etc., and the various educational bodies such as NCERT, SCERT, CBSE and the private professional bodies and management associations will certainly bear fruit in the long run and make India a Knowledge Society and an attractive educational destination for today's globalized world.

Let us conclude this article with the observation made by the UNESCO three decades ago:

'Education is the planned process of inducing those attitudes and transmitting those skills that are essential for local, regional and national development. Social change with economic and political change is most essential to all countries, especially developing countries that are yet to bring about fundamental changes for the fulfilment of the basic needs of all sections of their people.'

Let us hope that the commendable overall development made by India in all sectors of education during the past 65 years will be augmented further in the years to come. ❑

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Towards a Healthier India

Ambrish Kumar

The health system goals of equity and accessibility necessitate adoption of a financing strategy that will ensure protection of the majority of individuals from catastrophic health expenditure

THE VALUE of healthy choices has been known to people living in Indian subcontinent since antiquity. Ayurveda (science of life) is one of the oldest healthcare systems that take a holistic view of the physical, mental, spiritual and social aspects of human life, health and disease. While Indian systems have been effective in preventive healthcare, there are emergency situations where one requires surgical procedures. Management of diseases and patient care may need different approach and solutions.

Access to Affordable Healthcare

At the time of the independence, very few modern health care services were available. People depended on locally available traditional knowledge. State of public health was very low. All the population based health indicators, i.e., life expectancy, IMR, MMR, morbidity and mortality due to infectious and communicable diseases were highly unsatisfactory. Poor nutrition, unsafe drinking water, poor hygiene and living conditions contributed to poor state of public health.

We present the outcomes of the Health Planning in the country in two periods (1951-1979) & (1980-2012) spanning about 28 and 32 years respectively.

1st Five Year Plan (1951-56) to 5th Five Year Plan (1974–1979)

The 1st Five Year Plan to 5th five year plan were based on the recommendations of the Bhore Committee (1946), Mudaliar Committee (1961) etc. The importance of 'Health' as a resource was well explained. The First Five Year Plan stated:

"Health is fundamental to national progress in any sphere. In terms of resources for economic development, nothing can be considered of higher importance than the health of the people. For the efficiency of industry and of agriculture, the health of the worker is an essential consideration. Health is a positive state of well-being in which the harmonious development of physical and mental capacities of the individual lead to the enjoyment of a rich and full life. All-India Institute of Medical Sciences (AIIMS), Delhi was established in 1956 as an institution of national

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importance by an Act of Parliament with the objects to develop patterns of teaching in Undergraduate and Post-graduate Medical Education in all its branches so as to demonstrate a high standard of Medical Education in India; to bring together in one place educational facilities of the highest order for the training of personnel in all important branches of health activity; and to attain self-sufficiency in Post-graduate Medical Education.

Some notable achievements

The life expectancy at birth went up from about 32 years as per 1951 Census to about 52 years during 1976—81. The infant mortality rate came down from 146 during the fifties to 110 in 1981. About 50,000 sub-centres, 5,400 primary health centres including 340 upgraded primary health centres with 30 bedded hospitals, 106 medical colleges with admission capacity of 11,000 per annum and about 5 lakh hospital beds were established. The country was declared free from smallpox in April, 1977.

6th Five Year Plan (1980–1985) to 11th Five Year Plan (2007-12)

The main focus of the health planning during this period (1980-2007) was improving the availability of 'Health Human resources' building rural health infrastructure, improving the availability of medicines and other services.

National Health Policy 1983 & 2002

India's first 'National Health Policy' was formulated in 1983 and second in 2003. The main objective of this policy was to achieve an acceptable standard of good health. The NHP 2002 noted that the Central Government will have to play a key role in augmenting public health investments as the State Governments were in difficult fiscal situation. This policy further envisaged a key role for the Central Government in designing national programmes with the active participation of the State Governments.

National Rural Health Mission (NRHM): Healthy Villages

NRHM was launched in April 2005 with the objective of providing accessible, affordable and quality healthcare to the rural population. Most prominent features of NRHM are involvement of communities in planning and monitoring, provision of untied grants to the health facilities and the communities annually, placing a trained female health activist in each village for 1000 population known as Accredited Social Health Activist (ASHA) to act as a link between the public health system and the community and bottom-up planning. The programme is continuing in 12th Five Year Plan with few changes.

Under the NRHM the following interventions have been initiated:

- **Janani Suraksha Scheme (JSY):** Janani Suraksha Yojana (JSY) is a conditional cash transfer scheme resulted in dramatic increases in institutional delivery. The JSY encourages women to make use of public health facilities for safe delivery.
- **Janani–Shishu Suraksha Karyakram (JSSK):** JSSK is a new initiative to make available better health facilities for women and child. All pregnant women delivering in public health institutions will have absolutely free and no expense delivery, including caesarean section. The scheme is estimated to benefit more than 12 million pregnant women who access Government health facilities.
- **'Mother and Child Tracking System'(MCTS):** Tracking of Pregnant mothers and children has been recognized as a priority area for providing effective healthcare services. Mother and Child Tracking system (MCH) is a name based pregnant mother and child tracking system. It is a management tool to reduce MMR/IMR/TFR and track the health service delivery at the individual level. MCTS supports health and family welfare managers and policy makers in measuring and monitoring the efficiency of the maternal and child health services in terms of needs, effectiveness and capacity, efficiency and evaluating up to what extent the increase in efficiency in the delivery of maternal and child health services has contributed to the decrease in maternal, infant and child mortality.
- **Universal Immunization Programme (UIP):** Routine Immunization: The UIP protects infants against six vaccine preventable diseases viz., tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis and measles. The standard immunization schedule developed for the child immunization programme specifies the age at which each vaccine is to be administered and the number of doses to be given. Routine vaccinations received by infants and children are recorded on a vaccination card issued to a child. The establishment of a 'Technology Mission on Immunization' in 1986 provided extra impetus and coverage increased rapidly.
- At the all-India level, 61 percent of children aged 12-23 months received full immunization.

The coverage of immunization was higher in urban areas (67.4 percent) compared to that in rural areas (58.5 percent). About 8 percent of the children did not receive even a single vaccine. (UNICEF: Coverage Evaluation Survey 2009). Routine immunization contributes significantly to reducing under five mortality and morbidity.

Prevention and Control of Diseases

India is faced with the triple burden of diseases. Communicable diseases continue to be a major public health problem in India. Many communicable diseases are endemic. There is always a threat of new emerging and re-emerging infectious diseases like, avian influenza, SARS, H1N1 influenza, etc. Local or widespread outbreaks of these diseases result in high morbidity& mortality.

India is witnessing a rising incidence of non-communicable diseases (NCDs), and old age diseases. Mental Health is another area which needs urgent intervention. This rise is occurring in a setting where health expenditures are growing rapidly led by an unregulated private sector and where health insurance and pension coverage are still limited. Non-communicable Diseases (NCDs) account for nearly half of all deaths in India. Among the NCDs, Cardiovascular Diseases (CVD) account for 52 percent of mortality (52 percent) followed by Chronic Obstructive Pulmonary Disease (COPD), Cancer, Diabetes and Injuries. High cost of medicines and longer duration of treatment NCDs constitute a greater financial burden.

Road traffic injuries are increasing sharply. Injuries and diseases of the musculoskeletal system account for more than 20 percent of patient visits to primary care.

Health-damaging behaviours such as smoking, drinking, consuming unhealthy diets (rich in salt, sugar and fats).

National Urban Health Mission: Healthy Cities

A new National Urban Health Mission to focus on the health challenges of people in towns and cities is needed. The NUHM will focus on health needs of the urban poor, particularly the slum dwellers by making available essential primary health care services.

Health Human Resources and Tertiary Care Institutions

Shortage of medical teachers, PG specialists and super-specialists is acute, which lead to adverse impact on the quality of education and patient care. The tertiary healthcare institutions have expanded significantly during the last 20-25 years, mainly through private sector. However quality and cost of education is a cause of concern. The corporate hospitals came into existence after the government allowed private participation and investment in hospitals. The entry of corporate sector into the Indian healthcare industry has improved high-tech infrastructure and raised the quality of services. As a flip side, it has taken away many high performing doctors from public health system to private sector owing to high remuneration, state of art technology and general working environment.

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY)

PMSSY was launched in 2006 with the objective of correcting the imbalances in availability of affordable/reliable tertiary level healthcare in the country in general and to augment facilities for quality medical education in the under-served States. The PMSSY envisages setting up eight AIIMS like institutions (ALIs). Each institution will have a 960 bedded hospital in 39 specialty /super-specialty disciplines. Medical College has 100 UG intakes. PMSSY also envisaged up-gradation of existing medical institutions.

States' Performance in the Health Sector

India is a union of 28 states and 7 union territories. Within the country, there is persistence of extreme inequality and disparity both in terms of access to care as well as health outcomes. There are some states like Kerala, Tamil Nadu who have been performing well whereas in some states, rate of improvement is insufficient to catch the better performing states in near future. Life expectancy at birth (or longevity) is an overall indicator of the economic and social well-being of the people. As a society advances, the life expectancy of its people also increases. The IMR and MMR are a sensitive indicator of not only the health status of the population but also the level of human development. Kerala's life-expectancy at birth is about 10 years more than that of Assam. IMRs in MP and Orissa are about five times that of Kerala. Annual Health Survey Bulletin 2010-11 reports that, IMR across 284 districts ranges between 19 (Rudraprayag; Uttarakhand) and 103 (Shrawasti, UP) – a variability of 5 times. Similarly MMR across 284 districts ranges between 11 (Rudraprayag; Uttarakhand) and 75 (Balangir, Odisha) – a variability of 7 times. MMR in UP is more than four times that of Kerala. MMR estimates for the country for 2007-09 is 212, in (EAG) states and Assam 308 and among Southern States it is 127, in other states it is 149.

This high degree of variation of health indices is a reflection of the

high variance in the availability of health services in different parts of the country. The challenge is to provide these areas with access to low-cost public health interventions and timely treatment. These States are also the ones that have acute crises of human and financial resources. This large disparity across India places the burden on the poor, especially women, scheduled castes, and tribes.

Public Health Expenditure

Financing healthcare is one of the critical determinants that influence health outcomes in a country. The health system goals of equity and accessibility necessitate adoption of a financing strategy that will ensure protection of the majority of individuals from catastrophic health expenditure.

National Health Accounts (NHA): India 2004-05 shows that the health care system in India is pre–dominantly catered by the private sector. Expenditure in the private sector contributes to 78.05 percent of total health expenditure, public sector accounts for 19.67 percent and external flows 2.28 percent. Health expenditure formed 4.25 percent of Gross Domestic Product (GDP). By source, Central Government accounted for 6.78 percent while State Governments contributed 12 percent. Under private expenditure, households contribute a significant portion at 71.13 percent of total health expenditure with social insurance funds at 1.13 percent and firms at 5.73 percent.

Health expenditure as percentage of GDP and public spending as percentage of total health Expenditure is low when compared to developed countries. The total public expenditure on health as a percent of GDP stands at around 1.1 percent in 2009-10. The state share of public expenditure on health 0.70 percent, whereas the central share 0.39 percent. Total Health Expenditure (both public and private combined) as percentage of GDP in India is higher than– China, Malaysia, Sri Lanka, Thailand, Pakistan and Bangladesh though public spending as percentage of total health expenditure is significantly lower than all these countries.

After the launch of NRHM there has been increase in state health expenditure. Most of this is in the non-plan. States are required to contribute 15 percent of the cost of the NRHM. Most states spend around 4 to 5 percent of the state budgetary outlay on health and less than 1 percent of the GSDP on health-which is insufficient to meet the NRHM goals.

Financial Protection and Health Insurance

India ranks very low in terms of financial protection. The high Out of Pocket (OOP) expenditure on health care forms a barrier to accessing care and can cause households to incur catastrophic expenditures, which in turn can push them into indebtedness and poverty. A consequence of the low public spending on health is the extremely high burden of private out-of pocket expenditures. India's medical insurance sector remains weak and fragmented even though there is a plethora of medical insurance schemes operated by the Central (RSBY) and state governments (Arogyasri) , public and private insurance companies and several community-based organizations.

Ayush

AYUSH has presence in all parts of the country. It has near universal acceptance, available practitioners and infrastructure. The strength of AYUSH system lies in preventive & promotive health care, diseases and health conditions relating to women and children, non-communicable diseases, stress management, palliative care, rehabilitation etc. AYUSH has very little side effect, has a soft environmental footprint and is engrained in local temperament. It can play an important role in achieving the *National Health Outcome Goals*. Its huge resource of hospitals beds (62,000), and health workers (7.85 lakhs) need to be efficiently utilized to meet the *National Health outcome Goals*. AYUSH and Allopathic, both systems, often provide solutions to a common set of problems. Many times both systems complement each other also. Our endeavor during the 12th Five Plan period should be that both systems expand and progress together, based on their core competencies and inherent strengths. We must ensure that the Health care delivery system in the country is designed and developed in such a way that, both, AYUSH and allopathic systems are available to every patient and the choice of system of treatment is the ***patient's choice***.

Achievements and Areas of Concern

During 1980-2012 (about 32 years), India registered significant progress in improving life expectancy at birth, reducing mortality due to communicable diseases, as well as reducing infant and material mortality. One of the major achievements during this period is non-reporting of polio cases from any part of the country for more than 12 months.

However, a high proportion of the population, continue to suffer and die from preventable diseases, pregnancy and child birth related complications as well as malnutrition. The rural and urban both public health care system in many States and regions is in

an unsatisfactory state leading to pauperization of poor households due to expensive private sector health care.

IMR and MMR are showing downward trend, yet the rate of improvement has to be two to three times that in the past so as to attain the monitorable goals. We have not been able to address social and family health issues such as Malnutrition of woman and children, declining child sex ratio (CSR), adolescent health, care of older persons etc.

Health is a state subject. All stakeholders need to co-operate and communicate for efficient and effective management of the programme. Managerial capacity of the Health programme managers needs to be strengthened, upgraded, and modernized.

Fully functional health care facility at a reasonable distance and location is a dream for most of the population. All the three connectivity i.e. Road, Mobile and Internet are essential for efficient functioning. To address issue of large inter-district variations, decentralized district-based health planning is essential.

It may be noted that 'Only Healthy people will enjoy Demographic Dividend'.

12th Five Year Plan: (2012-2017): Towards Comprehensive Health Care

As per census 2011, total population of the country is 1210.2 million. Out of which, Rural population is 833.1 million (68.84 percent) and Urban 377.1 million (31.16 percent). During 2001 – 2011, population of the country has increased by 181.4 million. Population increase in rural areas is 90.4 million and in urban is 91.0 million. Number of Rural Units (or Villages) in India are 6, 40,867, an increase of 2,279. The number of Urban Units is 7,935, an increase of 2,774. Out of which Statutory Towns are 4,041 an increase of 242 and Census Towns 3,894 an increase of 2,532.

There are large differences between Rural and Urban Health indicators and also between Male and Female indicators. As per SRS Bulletin, December 2011, IMR in 2010 was 47 (total), 46 (male) and 49 (female) respectively. In rural areas corresponding numbers were 51 (T), 50 (M) and 53 (F) and in urban areas 31 (T), 30 (M) and 33 (F). The gap between urban male and rural female is 23 points. AHS Bulletin 2010-11 observes that IMR in rural area is significantly higher than that of urban area. In UP, rural IMR is 74 compared to 54 in urban. More female infants die as compared to males. In UP, female IMR is 72 compared to 69 for males.

Planning Commission constituted the *High Level Expert Grou*p (HLEG) on Universal Health Coverage (UHC) under the Chairmanship of Dr K. Srinath Reddy in October 2010 to draw and design a comprehensive strategy for health for the Twelfth Five Plan. Some of the Recommendations of HLEG are as follows:

- Ensuring equitable access to affordable, accountable, appropriate health services of assured quality as well as public health services addressing the wider determinants of health delivered to individuals and populations;
- Universal entitlement to comprehensive health security;
- Government (Central government and states combined) should increase public expenditures on health from the current level of 1.2 percent of GDP to at least 2.5 percent by the end of the 12th plan, and to at least 3 percent of GDP by 2022;
- Ensure availability of free essential medicines by increasing public spending on drug procurement;
- Use general taxation as the principal source of funding health care;
- Three Year Bachelor's Degrees for Rural Health;
- Emphasize Public Health: Investing in public health is the cheapest way of promoting the health well-being of the population;
- Highly uneven distribution of medical colleges resulted in the skewed production and unequal availability of doctors across the country. Setting up of 187 new medical colleges and 382 new nursing schools over the next 10 years in underserved districts;
- Regulation of the public and the private sectors to ensure provision of assured quality and rational pricing of health care services.

The Twelfth Five Year Plan adopts a broad approach to health, including as 'key determinants of health', a range of resources like food supply chains and nutrition, drinking water and sanitation. It takes the view that health would entail a 'continuum of care' across sectors. Accordingly, the health policy and programmes will encourage a multi-sectoral approach to health. It also recommends strategic changes to the existing health programmes and schemes, such that they work in conjunction with each other and collectively contribute to building a comprehensive health system. Thus it brings into focus a systemic approach to health, while recognizing the importance of the individual programmes. ❑

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Grappling with Poverty

Jaya Raj

To achieve a higher rate of poverty reduction, India will need to address the inequalities in opportunities that impede poor people from participating in the growth process

POVERTY IS a situation where the individual or communities lack the resources, ability and environment to meet the basic needs of life. It is a problem world wide. Historically, people as well as societies have considered poverty as inevitable and accepted it fatalistically. There had been continuous efforts to address and ameliorate poverty with varying levels of success. It is still a stark reality in many parts of the world including in many developed countries. About 1.7 billion people in the world are estimated to live in absolute poverty today.

India, one of the oldest civilizations of the world and a crucible of societal experimentation, has grappled with the problem of poverty over the history. Despite sustained and renewed efforts by the country since its independence from colonial rule, poverty is still rampant in India. Slightly more than a third (37 percent) of India's total population falls in the category of 'poor'. That means the country is the home for one third of all the poor in the world.

However, there are signs of optimism. The poverty rate in the India is projected to fall from 51 percent in 1990 to about 22 percent by 2015. According to a new UN Millennium Development Goals (MDG) report, India's poverty rate is projected to drop to 22 percent in 2015. In Southern Asia, only India is on track of the MDG goal to cut poverty in half by the 2015 target.

The main causes of poverty in India are its high population growth rate, agrarian form of economy, primitive agricultural practices, illiteracy, ignorance, unemployment, underemployment, caste based politics, urban rural divide, social iniquity and discrimination. Poverty may also be understood as an aspect of unequal social status and inequitable social relationships, experienced as social exclusion, dependency, and diminished capacity to participate, or to develop meaningful connections with other people in society. This is of considerable relevance to the Indian situation, as caste and social status considerations had acted as serious impediments in the country.

Estimates and norms of poverty also vary. According to a 2004-2005 survey by NSSO, 22.15 percent of the population falls below the poverty line in India.

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Some of the 'not very poor' are just above the poverty line, but continue to be poor. They have no savings cushion. The estimate was based on monthly consumption of goods, daily wages, self employment and landless laborers.

India shares very many common features of poverty with other affected countries. Levels of poverty vary in different groups and countries. Relative poverty refers to lacking a usual or socially acceptable level of resources or income as compared with others within a society or country. Absolute poverty is destitution wherein one lacks basic human needs including clean water, food, clothing, shelter, health cover and education. Extreme poverty is also called penury.

Economic aspects of poverty relate to material needs, including the necessities of daily living, such as food, safe drinking water, clothing and shelter. The supply of basic needs can be restricted by constraints in public services. These include administrative lapses, implementation slippages, corruption, debt burden and brain drain. The social aspects like easy access to education, health care and political empowerment are also determinants.

Since the early 1950s, the successive governments have initiated, sustained, and refined various plans and schemes to help the poor attain self sufficiency in food production. The government and non-governmental organizations NGOs have initiated several programmes to alleviate poverty. These include subsidizing food and other necessities, increased access to loans for capacity building, improving agricultural techniques and price supports, and promoting education and family planning. These measures have helped eliminate famines, cut absolute levels by more than half, and reduced illiteracy and malnutrition.

Probably the most important initiative has been the supply of basic commodities, particularly food at controlled prices. Easier access to food is important as the poor spend about 80 percent of their income on food. The schemes have however not been very successful because the rate of poverty reduction lagged behind the rapid population growth rate. The failure probably lay in the growth model adopted by the government during the first phase of the planned development itself.

The planned development adopted by the government in the 1950s professed a promotional state aspiring for high growth rates, openness to trade and investment, welfare expenditure and macro stability. However, the growth strategy culminated in the 1980s with low growth rates, closure to trade and investment, a license-obsessed restrictive regime unable to sustain social expenditures and macro instability. That compelled a re-look and change at the growth strategy and welfare measures, particularly the poverty eradication and social welfare.

As the Prime Minister, Dr Manmohan Singh, explained, the basis of the new development strategy is rapid economic growth for ensuring a better quality of life to all the citizens. The government's professed objective now is aspiring and sustaining an annual GDP growth rate above 10 percent, and channel the higher wealth for improving the socio-economic conditions of all sections of the people, particularly the poor. The government was able to reach a nine percent growth in GDP just before the global economic recession came in 2008. That high growth proved to be a better tool for poverty eradication. The government could earmark a substantial portion of the annual financial budget for poverty alleviation initiatives. At the core of the new civic drive is to make the poor self sufficient for the three basic requirements of food, clothing and shelter by involving them in the strategy for rapid economic growth. Besides, the poor are being given other safety nets like food rationing, food security and state guarantee of employment and education.

Among the new flagship programmes launched for poverty eradication are the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Swarnjayanti Gram Swarozgar Yojana (SGSY) and Swaran Jayanti Shahri Rozgar Yojna (SJSRY). The MGNREGS was launched in February 2006 and enlarged to several more backward districts to provide assured wage employment to the rural poor. The Swarna jayanti Gram Swarozgar Yojana (SGSY) got launched in April 1999 after restructuring of the Integrated Rural Development Programme (IRDP) and allied programmes. It is a self-employment programme for the rural poor. The objective of the SGSY is to bring the assisted daily wage earners above the poverty line by providing them income-generating assets through bank credit and government subsidy. The Swarna Jayanti Shahri Rozgar Yojna (SJSRY) is for providing employment to the unemployed and under-employed poor in urban settings to setup self employment ventures and wage employment avenues for them.

These programmes on which the government spends huge amounts every year have brought in a telling effect in poverty reduction and amelioration. In addition, the government is in the process of completing a legislation to provide food entitlement to the needy poor in both rural and urban areas. These along with constitutional guarantee for education and health would provide a much more reliable safety net for the poor. The poverty reduction initiatives in the rapid economic growth model pose a daunting challenge

to the government. While making available larger quantity of food to larger and larger number of the poor, the demand from the growing population with rising purchasing power also is going up. The current per capita food availability of food in India is low. With a population of over 120 crores (1.2 billion) expanding at about 1.5 percent a year (and, thereby, adding roughly 1.8 crore or 18 million mouths to be fed), the demand for food keeps rising. Even as food and nutrition security remains under stress, it is imperative that the poor are lifted out of their poverty. The Indian agriculture is under compulsion to deliver more and that too different varieties of food.

The population growth and rising incomes drive demand for food higher. Subsequent changing food habits especially among the burgeoning middleclass are set to transform the composition of the traditional food basket. With supply growth trailing demand growth, and production costs escalating, food prices will rise significantly. This is sure to have adverse consequences. It is hoped that the nation can accelerate its efforts directed at hunger eradication and lifting people out of poverty by giving agriculture a central role in the green economy to manage this transition effectively.

According to a recently released World Bank report, India is on track to meet its poverty reduction goals. Despite significant economic progress, percolation of wealth earning is very slow in the poorer sections. However by 2015, an estimated 53 million people will still live in extreme poverty and 23.6 percent of the population will still live under US$1.25 per day. This number is expected to reduce to 20.3 percent or 268 million people by 2020. However, at the same time, the effects of the global financial downturn in 2008-09 have plunged 100 million more Indians into poverty than there were in 2004, increasing the effective poverty rate from 27.5 percent to 37.2 percent.

Recently, Prime Minister Manmohan Singh in his (June 21) address to the 'Rio+20' UN summit on sustainable development at Rio de Janerio, Brazil highlighted the importance of poverty fighting. He said: "The 1992 Rio Summit correctly acknowledged that poverty eradication must remain the over-riding priority for developing countries". He pointed out that those living at the subsistence level cannot bear the costs of economic adjustments and their livelihood considerations are important in determining how scarce natural resources such as land, water and forests are used. Dr Manmohan Singh added that the " current consumption patterns in the industrialized world are unsustainable. We need to find new pathways for sustainable living," he said. At the conference, India and other developing countries managed to keep focus on poverty despite enormous pressure from the developed nations to give more priority to green economy.

The global poverty numbers have been updated because of a new international price survey conducted in 2005. Based on this new data, the old international poverty line of $1.08 a day in 1993 Purchasing Power Parity (PPP) prices has been updated to a new international poverty line of $1.25 a day in 2005 PPP prices. Using this new data, the paper finds that poverty levels across the globe have declined, with 1.4 billion people (one in four) in the developing world living below US$1.25 a day in 2005, down from 1.9 billion (one in two) in 1981. In other words, global poverty rates fell from 52 percent in 1981 to 26 percent in 2005.

However, the paper also finds that the number of poor people in the world in 2005 (at 1.4 billion) was higher than the earlier estimates based on the then international poverty line of $1.08 in 1993 PPP. This earlier estimate had pegged the number of global poor in 2005 at below 1 billion.

Similarly, estimates for India also indicate a continuing decline in poverty. The revised estimates suggest that the percentage of people living below $1.25 a day in 2005 (which, based on India's PPP rate, works out to Rs 21.6 a day in urban areas and Rs 14.3 in rural areas in 2005) decreased from 60 percent in 1981 to 42 percent in 2005. Both the dollar a day and $1.25 measures indicate that India has made steady progress against poverty since the 1980s, with the poverty rate declining at a little under one percentage point per year. This means that the number of very poor people who lived below a dollar a day in 2005 has come down from 296 million in 1981 to 267 million in 2005.

However, the number of poor people living under $1.25 a day has increased from 421 million in 1981 to 456 million in 2005. This indicates that there are a large number of people living just above this line of deprivation (a dollar a day) and their numbers are not falling. To achieve a higher rate of poverty reduction, India will need to address the inequalities in opportunities that impede poor people from participating in the growth process.Eradication of poverty in India is considered to be a long-term goal. Poverty alleviation is expected to make better progress in the next 50 years than in the past, as a trickle-down effect of the growing middle class. Increasing stress on education, reservation of seats in government jobs and the increasing empowerment of women and the economically weaker sections of society, are also expected to contribute to the alleviation of poverty. ❑

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ANALYSIS

Investing in Infrastructure Development

Namita Mehrotra

Infrastructure development needs sustained investments of a long-term nature. Not only is a rigorous monitoring of sector-wise targets critical for the success of the entire investment programme, it is also necessary for the policy environment to be dynamic in nature

EQUITABLE DEVELOPMENT is dependent on sustained growth of an economy which is critically reliant on the sustainable development of infrastructure. Infrastructure is, therefore, a driver for inclusive growth. However, investments in infrastructure are not easily available due to requirements of lumpy capital investment with very low returns. Such investments are justified normally on grounds of social benefits rather than on financial viability.

India is poised to become the third largest economy in terms of GDP in the next two decades. At present, alongwith China, it is one of the fastest growing economies in the world. The growth momentum needs to be sustained to ensure that the fast pace of growth does not peter down. Absence of world class infrastructure facilities in India is often considered as one of the major impediments to growth. With the sprawling urbanization, demand for infrastructure continues to rise faster than the capacity in the economy to satisfy such demands.

Infrastructure sectors

Glancing across the major infrastructure sectors, it is found that apart from telecom where teledensity is extremely high (79.28 in May 2012 as compared to 0.31 in 1981) and tariffs one of the lowest in the world, other sectors are yet to achieve levels of stable growth coupled with quality services.

India has a road network of 33 lakh kilometres which is the second largest in the world. These roads carry 65 percent of the freight traffic and 80 percent of the passenger traffic of the country. National Highways carry 40 percent of the traffic, yet constitute only 1.7 percent (71,772 kms) of the total road network in the country and rural roads cover a length of about 26.5 lakh kms. Only 20 percent of this National Highways network is four-lane, 50 percent two-lane and 30 percent single-lane. The State Highways have also suffered from prolonged neglect.

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As regards Indian Railways, the largest rail network in Asia comprising about 64,000 route kilometres, there has not been much growth in the network since independence. At the time of independence, the route kilometres stood at 53, 596 kms. Hence, just about 10,000 route kilometres have been added in the last 65 years resulting in saturation of routes and restricted capacity. Naturally, the share of goods and passengers carried has come down drastically since independence.

India has a total installed capacity of 2.03 lakh MW of power as against 1,362 MW in 1947. Thermal power forms 66.32 percent of this capacity and about hydel power 19.2 percent. The per capita consumption has increased 49 times since independence and stood at 813.3 kwh for the year 2010-11. This was, however, less than one-third of the world average per capita consumption of power. The power sector suffers from a peaking deficit of 9.8 percent and an energy shortage of 8.5 percent due to underinvestment and poor maintenance. The distribution segment of the sector suffers from average Aggregate Technical &Commercial losses of 27 percent and as per the 13th Finance Commission's projections, in absolute terms, these losses are projected to increase to Rs. 1.16 lakh crore by the year 2014-15.

At the end of the 11th Five Year Plan, India was the 9th largest civil aviation market in the world with a passenger handling capacity of over 220 million and cargo handling capacity of 3.3 MT. However, air travel penetration continues to be low at 0.04 air trips per capita per annum. The Indian civil aviation sector was able to attract private investment of about Rs. 30,000 crore in four airports at Delhi, Mumbai, Hyderabad and Bengaluru. Airports Authority of India had a plan to develop 35 non-metro airports in the country. Of these, 26 have been developed and the balance would be completed in the current financial year.

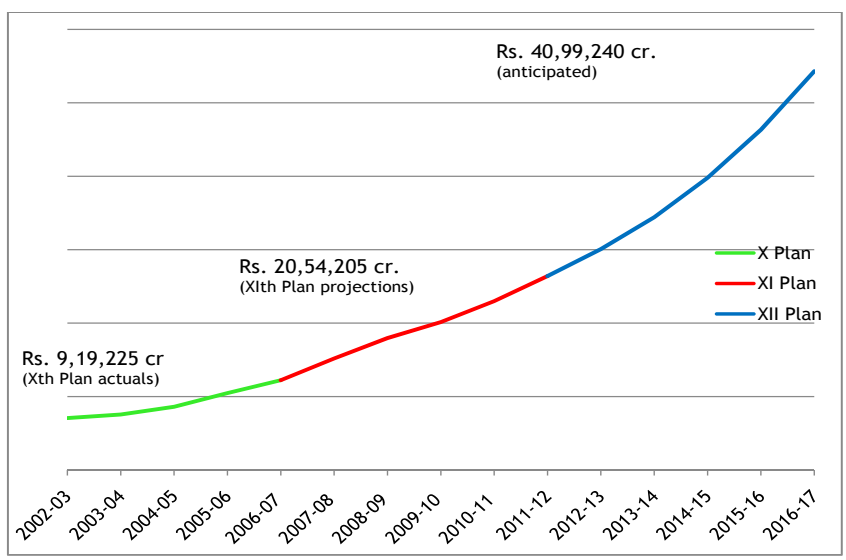
The Indian maritime sector handles 95 percent of India's foreign trade by volume. There are 13 major ports and 187 minor/ intermediate ports in the country. In the year 2011-12, the major ports handled 560.1 million tonnes of traffic and the total cargo handled by all the ports together was 915 million tonnes. The average turnaround time at major ports has increased from 3.93 days to 4.67 days between 2006-07 and 2010-11. There has also been a deterioration of 3 percent in the pre-berthing detention time.

Infrastructure development through the Five Year Plans

In the initial Five Year Plans, it was widely believed that agriculture needed the necessary push to sustain the economy and the basic needs of food for the masses needed to be met. There was also considerable importance attached to setting up heavy industries. Infrastructure requirements were proposed to the extent of meeting the aforesaid objectives and were never the stated objective of the Plan exercise as such. However, there was heavy allocation of resources towards irrigation and power since the two were necessary for the development of the agrarian economy and industries. At a later stage in the 60s and the 70s, development of roads also picked up momentum.

In the mid-80s onwards, the thrust of the development process was towards obtaining state of the art technology for the country. This resulted in impressive development of communications technology. It was only from the Ninth Plan onwards that there was a definite thrust towards infrastructure development in the Five Year Plans. In each of the previous two Plan periods, the investment in infrastructure has almost doubled. This is evident from Figure 1.

Figure 1: Investment in Infrastructure



Infrastructure investment and GDP

Investment in infrastructure as a ratio to GDP was expected to increase from 5.7 at the end of the Tenth Plan to 8 percent in the terminal year of the Eleventh Plan. It is anticipated that infrastructure investment as a percentage of GDP would be 10 percent in the terminal year of the Twelfth Plan. Figure 2 depicts the investment of infrastructure as a percentage of GDP over the Tenth and Eleventh Five Year Plans. It also shows the projected percentage for the Twelfth Plan.Data published in May 2011 shows that the United States of America invests 2.5 percent of its GDP in infrastructure against China's 9 percent and Europe's 5 percent.

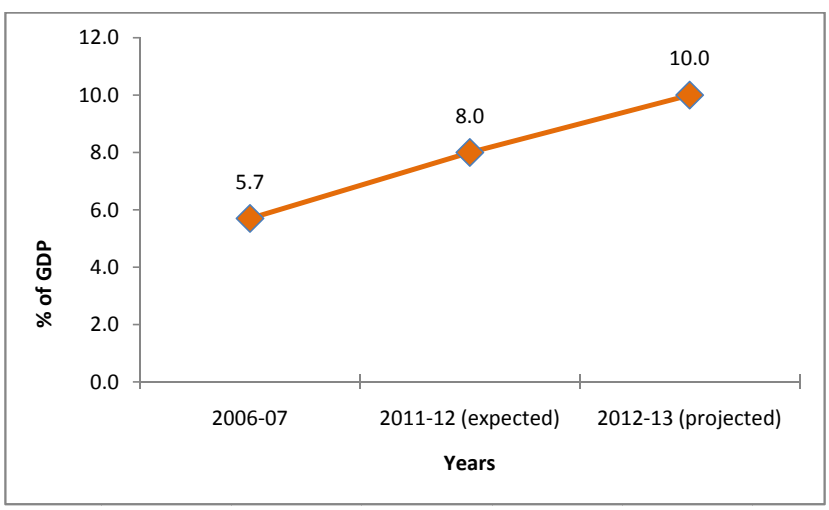
Sectoral analysis

The sectoral analysis of investment made in infrastructure sector reveals that electricity continues to absorb about one-third of the total investment in both the Plan periods followed by the road sector at approximately 15 percent. However, the rate of increase has been the highest in telecom, airports and oil and gas pipelines between the Tenth and Eleventh Five year Plans.

Infrastructure Development programmes

Some of the important infrastructure development programmes include the National Highway Development Programme (NHDP) for development of National Highways. It has been one of the most successfully rolled out programmes till date. The Pradhan Mantri Grameen Sadak Yojana (PMGSY) is a programme for the development of rural roads to connect over 1,000 habitations with all-weather roads. To develop and integrate the North-Eastern states with the country, a programme called Special Accelerated Road Development Programme for the North Eastern region is being implemented. A massive programme for urban renewal has been undertaken through the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) by focussing on urban infrastructure. Rural infrastructure comprising irrigation, roads, housing, water supply, electrification and telecom connectivity is being undertaken through Bharat Nirman. In the power sector, electricity is proposed to be provided to all rural households under the Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY).

Figure 2: Infrastructure investment as a % of GDP



Approach to the Twelfth Plan

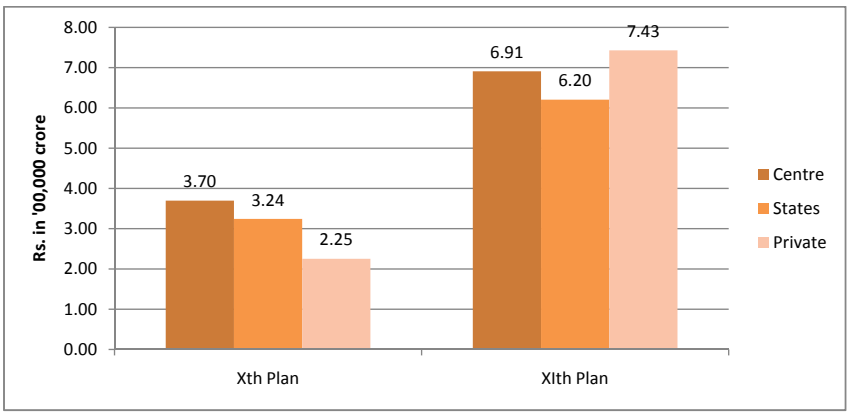
The Twelfth Plan Approach Paper stated that the thrust on accelerating the pace of investment in infrastructure should continue for reasons of accelerating growth. However, since there would be a continued strain on public resources during the Twelfth Plan due to their requirement in backward and remote areas, private investment would be required to meet the targets.

Financing of infrastructure and private participation

Traditionally, infrastructure development in India has been financed through public investments, especially by the Central Government rather than the State Governments although, of late, investments from the States have also been forthcoming. The share of the Central Government has gone down from 40 percent of the investment in the Tenth Plan to 34 percent in the Eleventh Plan. The share of the State Governments has also declined from 35 percent to 30 percent between the Tenth and the Eleventh Plans. It naturally follows that the share of private investment is increasing steadily as can be seen from Figure 3.

The share of the public sector in infrastructure investment has gone down from 75 percent in the Tenth Plan to 36 percent in the Eleventh Plan and expected to go down further to 50 percent during the Twelfth Plan.

Figure 3: Share of Central & State Governments and private sector in infrastructure investment



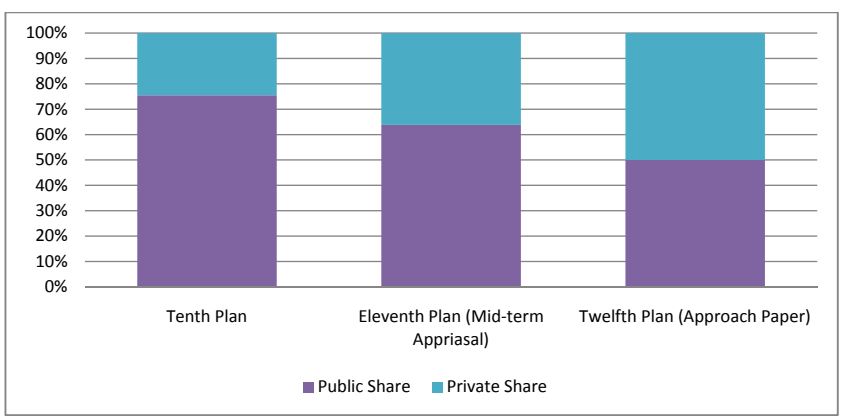
Public Private Partnerships

The big thrust to infrastructure investment has come due to the participation of the private sector. Public Private Partnerships (PPPs) have been the primary means of channelizing private investment into infrastructure sector which is considered rather unattractive by the private sector for reasons of poor return and long gestation periods. The rationale for PPPs lies in not only supplementing scarce public resources but also in harnessing private sector efficiencies to provide quality services to the public at large.

Public Private Partnerships are intended to meet the public objectives of infrastructure provisions through private means. These are sought to be achieved by way of long-term contract agreements which specify the standards and specifications of the assets to be constructed and maintained. Most of these projects are user-charge based wherein the authority to collect the user charge/ toll/fee is delegated to the private partner.

Concerted efforts have been made by the government towards creating an enabling environment for the development and long-term sustainability of PPPs. These include the setting up of an institutional framework comprising an appraisal and approval mechanism, schemes of financial support including the Viability Gap Funding (VGF) Scheme.

Figure 4: Share of public & private investments in infrastructure investment



Institutional framework

In 2004, a Committee on Infrastructure (CoI) was constituted under the chairmanship of the Prime Minister for evolving policies with a view to creating world class infrastructure in the country. In 2009, the CoI was replaced by a Cabinet Committee on Infrastructure (CCI), also under the chairmanship of the Prime Minister. A committee called the PPP Appraisal Committee (PPPAC) has been constituted to appraise and recommend PPP projects for approval. An Empowered Institution (EI) has been set up for the purpose of sanctioning VGF to state level PPP projects.

Financial Support

Under the VGF scheme, the Central Government provides grant of upto 20 percent of the project cost to the private entity for implementing a PPP project. In the last financial year, a total of 390 projects were approved by PPPAC and EI involving a total investment of Rs. 3,05,010crore. A dedicated organization, called India Infrastructure Financing Corporation Limited (IIFCL) has been set up to provide low cost and long-term funds to PPP projects.

Standardization of documents

The Central Government has evolved and mandated standardized bidding documents for PPP projects in infrastructure sector. Further, Model Concession Agreements (MCAs) have been developed for the implementation of PPP projects. The bidding documents as well as the MCAs provide considerable flexibility for project-specific changes. Standardization enables adoption of international best practices in the Indian context.

Progress of PPPs

Public Private Partnerships have been undertaken in roads, ports, airports, urban transport and power transmission at the Central Government level. At the State Government level, such partnerships are flourishing in sectors such as water supply and sanitation, solid waste management, etc. Some representative PPP projects are Delhi, Mumbai Hyderabad and Bangalore airports, Jhajjar transmission project in Haryana, Hyderabad and Mumbai metro rail projects, Jaipur Kishangarh National Highway, Gurgaon Expressway, container terminals at Tuticorin, Chennai and JNPT, Ultra mega power projects, concessions for operation of container trains.

In one of its reports, the World Bank has stated that India has been the top recipient of PPI activity since 2006. It accounted for almost half of the investment in new Private Participation in Infrastructure (PPI) projects in developing countries implemented in the first semester of 2011 and remained the largest market for PPI in the developing world. A report prepared by the Asian Development Bank states that India stands in the same league as developed economies like South Korea and Japan on implementation of PPP projects. On a score of 100, Australia got the highest score of 92.3, followed by South Korea 71.3, India 64.8 and Japan 63.7.

Constraints and measures to boost infrastructure investment

It is widely believed that there is considerable appetite in the market to absorb infrastructure, including PPP projects. However, there are delays related to land acquisition and environmental clearances. Long term funds are also not easily available and banks have reached exposure limits related to sectoral lending. To mitigate the aforesaid constraints related to absence of long term debt in the market, the Finance Ministry has approved the mechanism for setting up infrastructure debt funds. The intent is to provide refinancing to projects once they are into commercial operations. The infrastructure debt funds would be able to attract insurance and pension funds which are long term in nature.

Conclusion

"...we have given a major push to infrastructure, particularly through PPP. A lot of investment avenues are opening up in Railways, roads, ports and civil aviation."

-Dr. Manmohan Singh, Prime Minister)

Infrastructure development needs sustained investments of a long-term nature. Not only is a rigorous monitoring of sector-wise targets critical for the success of the entire investment programme, it is also necessary for the policy environment to be dynamic in nature so as to adapt easily to the global economic environment. Further, since private investment is expected to flow in through PPPs for the development of infrastructure, it is imperative that the institutional structures are strengthened and investment decisions are based on well-laid down principles so as to avoid future liabilities for the government. The Twelfth Plan will, perhaps, propel the economy into a high growth trajectory. That would be possible only if infrastructure develops at a pace faster than the economy. ❑

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Institutional Mechanism for Monitoring of PPP Projects

The Cabinet Committee on Infrastructure (CCI) has recently approved a proposal from the Planning Commission to set up an Institutional Mechanism for monitoring and enforcement of provisions in PPP projects. With an increasing reliance being placed on PPP projects across many wings of the government, it has become necessary to adopt a well-defined institutional structure for overseeing contract performance effectively. The Institutional Framework requires project authorities to create a two-tier mechanism for monitoring the performance of PPP projects:

1. A PPP Projects Monitoring Unit (PMU) at the project authority level
2. A PPP Performance Review Unit (PRU) at the Ministry or State Government level, as the case may be.

The PMU is to prepare a report to be submitted to PRU within 15 days of the close of the relevant month. The report is to cover compliance of conditions, adherence to time lines, assessment of performance, remedial measures, imposition of penalties, etc. The PRU is to review the reports submitted by the different PMUs and oversee or initiate action for rectifying any defaults or lapses.

This is an important governance mechanism in an area which will see a lot of activity in future. It will ensure good governance, accountability, efficiency and economy in spending. The Planning Commission will have a central role in ensuring high quality monitoring. The Cabinet will have a chance to monitor every quarter.

Evolution of Telecom and IT Sector in India

Rajat Kathuria
Mansi Kedia

The National Telecom Policy 2012 and National Policy on Electronics 2011 have both acknowledged the power of convergence

DURING THE period after independence and until much of the 1990s, telecom services remained the privilege of only a few in India. Access to telephony was considered more a status symbol than an instrument of utility, since so few others had phones. Entrenched producer interest and a closed mind set led to the familiar outcomes of the License Raj-rising inefficiencies and a stagnating state monopoly. The onset of economic reform after the 1991 crisis brought with it sweeping changes in the telecommunications sector as well. Private entry and 'independent' regulation resulted in unprecedented growth. Information Technology (IT), on the other hand, was unencumbered of government control to begin with. A chance event in 2000 along with a laissez-faire approach towards the sector established India firmly on the global scene. IT has also greatly benefitted from technology import (from United States and the European Union), from investments in higher education that India made decades ago, and from the close cooperation between academia and industry. India today, has become a major hub for IT and IT enabled services (ITeS) export. If China has come to be labelled the world's factory, then India is often described as its office or outsourcing centre. In what follows we document the astonishing progress made by telecommunications and IT sectors, especially the former and outline a policy framework to leverage the ongoing convergence of telecom and IT technologies for rapid growth and inclusion.

Telecom – State Led Monopoly

The first telephone line in India laid in 1875 in Bombay and until the Second World War services were provided by private companies. In 1943, the government invoked its sovereign right and nationalized the three private networks that operated in Madras, Bombay and Calcutta. Earlier in 1854, a separate department was established to provide telegraph facilities to the public. Telephone services

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did not grow as fast as telegraph services when they were first introduced because telephone services were unreliable over long distances and also considered to be a luxury for commercial use and prone to be intercepted. A Director General of Posts and Telegraphs was created under the British to oversee integrated development of the sector. While construction of telegraph lines continued and all the major cities and towns were linked with telephones, the number of telephones in 1948 was a paltry 80,000. The following decades exhibited slow growth; teledensity increased from 0.02 percent in 1948, to only about 1.94 percent in 1998.

In January 1985, the government separated the Department of Posts & Telegraph by setting up distinct departments for both functions. The postal service though widespread and universally used was not as profitable, forcing it to be cross-subsidized by telecom. As a result, telecom itself suffered from under investment. In 1990 the waiting list for Direct Exchange Lines (DELs) ran into millions (1.71) with a waiting list in months estimated at 48.9 months. The privileged few could skirt the long queue, but for millions of others the government was under tremendous pressure to surrender its monopoly and improve penetration, quality of service and growth in the sector.

Telecom - Process of Liberalization and Institutional Reform

The process of telecom liberalization began in the 1980s, but the "big push" in reform and liberalization occurred in 1994, with the enunciation of the National Telecom Policy (NTP). In 1986, the government corporatized a portion of its departmental monopoly by creating MTNL in Bombay and Delhi and VSNL for international trunk services. The rest of the integrated monopoly was managed by Department of Telecommunication (DoT), which besides service provision, performed multiple other functions such as policy formulation, pricing, regulation, spectrum management, and research and development, among others. The Athreya Committee set up in 1990 recommended the re-organization of DoT, specifically the separation of service provision from policy and regulation. It was not until 2000, however that this transition was to be completed with the creation of a corporatized BSNL as the service provider. Meanwhile NTP 1994 recognized the need for private participation to increase investment and quality, but failed to underscore the need for a strong and independent regulator. Interestingly when NTP was announced, India's teledensity was merely 0.8 percent against the world average of 10 percent. The Telecom Regulatory Authority (TRAI) was eventually set up in 1997 to provide an independent regulatory framework to, *inter alia*, facilitate competition and protect consumer interest, but suffered persistent conflict with DoT and the incumbent public sector operators. This was not entirely unexpected because creating and establishing new regulatory institutions is a long and arduous process. The New Telecom Policy of 1999 (NTP 1999) was another dynamic statement of intent and it attempted to address some of the major gaps of NTP 1994, but it was not until 2000 when the TRAI Act was amended that the institutional structure in telecom acquired a degree of stability. The new TRAI Act created the Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT), a body that was envisaged to fast track the dispute settlement process. As stated above, BSNL was also created in 2000 effectively separating service provision from policy (handled by DoT) and regulation (managed by TRAI). At least in theory, the institutional structure in Indian telecom by the year 2000 was devoid of any obvious and apparent conflict of interest. This, along with a set of pro competitive regulatory and policy changes inspired an unprecedented period of growth in Indian telecommunications.

Telecom–The Growth Phase

The beginning of the millennium marked replacement of certain burdensome regulations with market oriented practices. In September 2002, telecom tariffs were assigned to competitive forces; the requirement for service providers to obtain approval from the TRAI on tariff changes was dispensed. In 2003, the Calling Party Pays (CPP) regime was introduced, which arguably was the most important factor responsible for the explosive growth in mobile telephony. The subscriber base today exceeds 900 million and teledensity has increased to more than 75 percent and subscriber numbers are currently growing at the rate of about 5 to 7 million per month (down from 18 million in August 2010). The change in India's telecom landscape has been spectacular and has unquestionably been driven by mobile telephony. Ownership of a phone is no longer a function of who you know, but rather conforms to the conventional forces of demand and supply. Waiting lists are down and voice calls in India are amongst the cheapest in the world. Mobile phones are ubiquitous in some Indian cities, where teledensity now exceeds 100. From a luxury when it was first introduced, the mobile service is now used every day by over 893.84 million Indians. The

Indian telecom network has become the second largest in the world after China.

Telecom - Technology Convergence Today and Policy Challenges

The experience of the Indian telecom sector demonstrates that competition driven network expansion, a stable institutional structure accompanied by rapid technological advancement can lead to transformative outcomes. Recognizing this, the recently announced National Telecom Policy of 2012 (NTP 2012) seeks to augment telecoms' transformative impact by acknowledging its role in economic growth and sketching a framework for technology enabled solutions for health, education, employment generation and financial inclusion. The emerging technology trends towards convergence will require a concerted effort for the simultaneous development of electronics manufacturing, telecom and IT services. Accordingly, the *Triad of Policies to Drive a National Agenda for ICTE* announced by the government in 2011 is built on the premise that to maximize the growth impacts of IT and telecom, it is critical to develop a strong Electronics System Design and Manufacturing (ESDM) base, presently conspicuous by its absence, in India.

Information Technology (IT) – Sunrise Sector in India

The information technology sector found a pioneering stalwart in Dr. Vikram Sarabhai. Among others, his legendary foresight was one of the early catalysts for the growth of IT in India. Establishment of the first Indian Institutes of Technology (IITs) in the 1950s and focus on higher education during the political reign of Jawaharlal Nehru are often considered as the early stepping stones for the industry. Establishment of Tata Consultancy Services in 1968 was another milestone for the IT industry in India.

The Department of Electronics (DoE) was set up in 1970 with much awareness of the advances in digital technology across the worlds. Unlike the DoT, the DoE had fewer inhibitions against private enterprise, the former being more socialistic in nature. The Department played an enabling role in the development of the sector in the early years. Gradually, its spin-offs and associated organizations such as the National Informatics Centre (NIC), Controller of Certifying Authorities (CCA), Centre for Development of Advanced Computing (C-DAC), National Internet Exchange of India (NIXI), etc. contributed to creating capability and human resources, promoting the development of software and IT applications, and enabling the adoption of internet and broadband in India. In due course of time the Department of Electronics was renamed the Department of Information Technology and more recently the Department of Electronics and Information Technology (DeitY).

The IT industry took off during the 1980s with the emergence of Indian entrepreneurs such as Infosys and Wipro and entry of global players like GE and Texas Instruments. The government announced new policies and adopted light touch regulations to promote growth. Some of these included the scheme for software parks, policies for allied sectors such as telecom, other tax incentives etc. Turn of the millennium saw bit of a turbulence for the industry as "Y2K" engendered panic. The potential crisis proved to be a blessing in disguise for India as demand for competent English-speaking programmers began to rise. The sector has transformed from being a data entry, customer support and transaction processing off-shore unit for companies in the developed world in the 1990s to companies that provide high-end services, IT strategy and consulting to companies across the world today.

IT - Promises for the future

Being outward-looking, the growth of IT in India has always been dependent on external factors. Close on the heels of Y2K, was the dotcom bubble, followed by the September 2001 attack on the twin towers in the US, and recently the global crisis of 2008; most of such events temporarily shock growth in the sector. In India, the industry has demonstrated resilience and has managed to consistently outperform in spite of the challenges. The current IT sector stands at about $100 billion and contributes about 8 percent of the national GDP. The hope is to see the sector cross the $300 billion mark by 2020 and enhance its service offerings by providing product innovation, business transformation and end–to end product development. Moreover the potential for domestic IT is also vast since at 22.39 million internet subscribers, India is one of the lowest in IT intensity, even among BRIC countries. The emergence of newer technologies such as Cloud Computing hold much promise, since it will enable even small and medium sized companies to embrace IT, thus lowering transactions cost and boosting efficiency.

Simultaneously, the government in collaboration with NASSCOM has rightly taken up several initiatives to create an ecosystem that will stoke growth. Some of these initiatives include the National Skills Registry (NSR) to create a repository of credible information about IT professionals, Data

Security Council of India (DSCI) to collate and disseminate the best practices in the security area, the National Innovation Council (NIC) to encourage and foster 'frugal engineering' and innovation, the National E-Governance Plan (NeGP) to promote computer literacy and adoption of internet in India.

The IT industry is entering a difficult phase from competing countries like Philippines in the BPO sub-sector, China in R&D, Eastern Europe in the KPO segment, and Brazil in animation. In order to mitigate the threat of competition and other challenges such as macro-economic instability in the Europe, unavailability of specialized talent, data security and privacy etc, the government needs to continue its support to build a credible ecosystem and at the same time continue its *laissez faire* approach towards regulation to boost performance.

Conclusion

The contribution of telecommunications and information technology to the social and economic development has been well established. Both sectors have achieved spectacular growth, albeit due to different reasons. IT benefitted from light touch regulation, while telecom eventually benefitted from a liberal policy environment and a revamped institutional structure. The lessons are clear. The government's competitive advantage lies in creating a regulatory framework and credibly enforcing the rules, while letting market find ways to create value. The IT sector has shown that, as has telecom, albeit in the latter case there has been a considerable delay. The future holds vast potential as IT and telecom come together due the convergence of technologies. The National Telecom Policy 2012 and National Policy on Electronics 2011 have both acknowledged the power of convergence. The rising adoption of mobile internet, transition to IPv6 and national broadband connectivity will enable computer, mobile phones, and a range of electronic devices to be connected to each other. This will stimulate usage of exciting applications and services with far reaching benefits in education, health and in business. The ecosystem in which the benefits of convergence can be realized can only be created by government; let's hope the new policies practice what they preach. ❑

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J&K WINDOW

JAMMU & KASHMIR PLAN FOR 2012-13

The Annual Plan for the year 2012-13 for the state of Jammu & Kashmir was finalized on July 13 between Deputy Chairman, Planning Commission, Mr. Montek Singh Ahluwalia and Chief Minister of Jammu & Kashmir, Mr. Omar Abdullah. The plan size has been agreed at Rs 7,300 crore. In his comments on the plan performance of the State, Mr. Ahluwalia complemented the State Government for restoring economic activity and focusing on the development of social and physical infrastructure. He said the State needs to further encourage private participation by creating an atmosphere conducive to investment. Education, health and tourism should be given priority while working out development strategy.

He said the Planning Commission is keen to provide flexibility to the States in the implementation of the centrally sponsored schemes. This has been found to necessary to improve effectiveness of the central programmes. He said the States should share their experience on implementation of centrally sponsored schemes with Planning Commission so that unwanted bottleneck can be taken care of in the next plan. He said States should introduce mechanism for periodic monitoring of the social sector programmes to improve pace of implementation. The State was also advised to improve resources of revenue.

The Commission pointed out that Tourism sector holds tremendous potential for boosting economic activities in the State by generating direct and indirect employment. Focus should be on development of infrastructure in a regulated manner through public and private partnership by extending incentives to the investor. The Government should modifying the incentive rules for making these more vibrant and attractive. Promotion of heritage, adventure, pilgrim and eco-tourism should also receive attention. Horticulture is emerging as a fast growing sector in the economy of the State. This contributes about 7-8 percent towards the GSDP. About 5 lakh families (27 lakh farmers) are involved with the Horticulture Industry directly or indirectly. An area of 3.06 lakh hectares is under fruit cultivation. Food processing should be encouraged to help horticulture producers getting better returns.

The State was advised to further accelerate the pace of economic development in the State, as there is need for building up of infrastructure like roads, power and tourism coupled with enhancing the provision for basic services such as; Health, Education, Drinking water supply etc. There is also need for greater emphasis on employment and income generation, which in turn requires skill up gradation and development of Tourism and Industrial Sectors in the State. Attention was drawn to the gender gap in literacy and it was pointed out that as per the census 2011 the gap is 20.25 percent which is much higher than the national average of 16.68 percent. Sex Ratio (0-6years) has declined by 82 points from 941 (Census 2001) to 859 (Census 2011) which is a matter of concern.

Briefing the Commission on the strategy for the 12th plan, Mr. Abdullah said that enhanced and inclusive development is a key component of the overall strategy to build on peace dividends. He said the major achievements of the State Government during the year include successful Panchayat Elections. The challenge is now to meet enhanced people's expectations. The public Service Guarantee Act has been introduced in 6 Departments and 45 Services and positive results are already visible. The State Information Commission has been fully functional and the State is steadily moving towards transparency in governance. State Accountability Commission has been reconstituted and steps being taken to set up State Vigilance Commission.

He said the twelfth five year plan will focus on accelerated and sustained Growth, Growth-employment Linkage, Consolidation of Infrastructure, Empowerment of people, and building of human and institutional capacities. The State would target a modest and realistic growth rate of 7.5 percent with focus on productive sectors and promoting private and public investment in the infrastructure sectors. ❑

VIEWPOINT

Elementary Education: Access to what?

Madhav Chavan

The bigger issue really is whether access to school, even schools with good infrastructure, equals access to education

TWENTY YEARS ago access to schools was considered a major problem to solve. Today, with over 97 percent enrollment and a primary school within 1 km of nearly 99 percent habitations of India, it may seem that the problem of access to schools is solved. Of course, it is not entirely solved. Specially if we start talking about access to good schools, then the situation does not look good at all, no matter how you define a good school.

The bigger issue really is whether access to school, even schools with good infrastructure, equals access to education. Perhaps it does. But let us break that down further. Does the school enable the child to learn? Learn skills? Learn knowledge? Or, does school enable children to learn how to learn - the skills to acquire further knowledge after completing elementary education?

If the PISA 2009+ tests, that children Tamil Nadu and Himachal Pradesh participated in, are acceptable as a measure of education, the answer is not a happy one. Remember that only school-going children of age 15 participated in the test. If we consider the fact that those who are 15 but are no longer in school (either dropped out in middle school or even just after completing 8 years of education), the actual situation is grimmer than that suggested by the 73rd and 74th rank of Tamil Nadu and Himachal. Among 75 participants, only one country, Kyrghyzstan at 75th place, ranked below India. A footnote in the report says that Indian sampling and data were not up to OECD standards. We ran a race, came second last, and then failed the dope test!

PISA (Programme for International Student Assessment) conducted by OECD has 5 levels of grading for reading literacy including 2 subgrades at the lowest level-1a and 1b. Our nodal scores were at 1b. In math there is no such sub-grading and we barely made it to level 1. What is this reading literacy? It is not just the ability to read, or to retrieve facts from the text as our schools teach, but it is the ability to analyze the text, link different facts, to connect

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it with own experience and so on. In math too, while ability to solve simple math problems is tested, math literacy is about using numbers, simple operations, data, representation to derive meaning and apply. So why did our children do so badly? Simply because they were never taught how to perform these tasks.

Why do we not teach our children basic reading and math literacy? Because we do not know how to. I doubt if any Indian institution has real indigenously developed understanding of reading and math literacy. Very little, if any, rigorous indigenous research exists on how children learn to read or read to learn. The same about math. Teaching how to read is neither a part of our curriculum, nor is it a part of our pre-service or in-service training. We do not know how to do it and it is not a part of our learning achievement goals. Yet, unlike other participants, we sent the two sacrificial lambs into the assessment without preparation. Further, going by the lack of any follow up action to change the situation for more than a year after the PISA results were declared, our education establishment does not take PISA seriously at all. It appears that providing good school infrastructure is such an overwhelming priority that providing children with good skills to acquire knowledge is something that can wait, or will happen in due course after all the infrastructure is in place.

The truth is that there is no place for skills in our education priorities. We are obsessed with knowledge and more knowledge. Knowlegde is equated with textbooks, which in turn are convenient reduction of curriculum. Never mind the fact that children cannot read textbooks!

Reading is a special skill. The developed world focuses on teaching this skill to children in the early grades, but we simply do not teach 'how to read'. We stress grammar but not communication. We teach language but do not allow expression. The National Curriculum Framework grudgingly states, "though we strongly advocate an integrated approach to the teaching of different skills of language, the school does need to pay special attention to reading and writing in many cases, particularly in the case of home languages". The perfect, ideal, holistic approach that is such a favourite of educationists is proving one more time how the best can be the enemy of the good.

If one argues that the PISA assessment is based on sophisticated higher international standards not really applicable to India, we have simpler evidence right at home. The ASER surveys annually have been showing that half or more of our children have been going up from Std 5 without acquiring the ability to read simple text fluently and without an ability to understand math or do basic arithmetic operations beyond numbers up to 100. There are overwhelming reports from all over India, from colleges, universities, and entry-level job recruitment processes that young people who are applying have extremely poor skills even compared to what is needed for simple entry-level tasks.

Apart from the real need to focus on skills rather than knowledge, there are other realities of Indian schools that point to focusing on skills as a strategy imperative for better learning. About 40 percent government schools have enrollment under 50 and possibly two or three teachers for Std 1-5. In urban areas of many cities where private schools are flourishing, government school enrollment is dropping. In Mumbai, the municipal school enrollment was about 750,000 in 1995 while it is down to about 350,000 in 2009. Census 2011 has shown that the population in the 0-6 age group is now declining in both rural and urban areas in real terms excepting in Bihar, and shows a negative growth rate in all states including in Bihar.

Government schools in India are getting smaller. In 2011, ASER estimates that over 50 percent children in rural government schools were sitting in multigrade classrooms thanks to the shrinking size of the schools. The incidence of multi-grade classrooms in government schools is rising over time. Even where there are single-grade classes, reading, writing, comprehension skills of children are at many varied levels, with majority of children far below of the level of what the grade level textbook expects. Given this fact, the knee jerk reaction of administrators and political leaders is to lower the level of textbooks rather than strive to work on improving average levels of skills.

RTE has made it a law to place and promote children automatically into age-appropriate grades. What real significance does this have in the Indian context? In 40 percent (and growing) schools of India, a child may be told that she has gone to the next grade and she may get new textbooks but she is very likely to end up sitting with other grades and certainly will not have acquired any higher level skills expected of her in the higher grade.

It is a shame that RTE and consequent policies are not focused

on measurable learning outcomes. What sounds like a very child-centered, child friendly policy is in reality only self-centered wishful thinking with no traction on the ground.

Focusing on skills to be achieved at the end of different stages such as end of Std 2, end of Std 4 or 5, and end of Std 7-8, is the need of the hour. Listening, speaking, expressing, reading, writing, solving problems have to be the focus with increasing stress on problem solving using all the skills that the child learns. The stress on constructivism in NCF 2005 is not really different from this but the effort to implement constructivism is not visible on the ground.

Currently classroom teaching is primarily attempting to provide grade-based knowledge from the textbook to the child regardless of the level that the child is at. RTE categorically states that teachers must "complete the curriculum in allocated time". How is a teacher who teaches a mixed group of children of Std 3-4-5 who have different textbooks, and who are at different levels of learning abilities supposed to accomplish the task? This stage-wise skill focus will actually help in providing the teacher with a better approach and 'provide additional instructional support for children who lag behind' as RTE compels.

Pratham's large scale experience shows that when children are grouped according to abilities and helped to learn specific skills using a simple combination of activities even with the help of less educated village volunteers, they make big learning jumps and enjoy learning. This strategy has been rigorously evaluated in its early stages by J-PAL to show that not only do children learn more, but they retain their advantage over other children for at least two years. This strategy, albeit with several shortcomings, was implemented to get good results across Punjab between 2009-11. But the Government of Punjab did not bother to document it and present it properly, and the high priests of the holy holistic education in the Delhi establishment had no reason to take interest either.

In search of equity in education, the RTE has gone for 25 percent reservation in unaided schools for the Economically Weaker Sections in the neighborhood. Demands are raised for more and better government school infrastructure and better educated, well-paid teachers. And then there is the National Curriculum Framework – NCF2005- that cannot be faulted except that it has not shown results for seven years (and counting). Once again we have proven that we have all the good wishes and ideas but our realities are in such contradiction that wishes do not become horses. On another note it is plain for anyone to see that while urbanization is happening, even a highly visible Urban Renewal Mission has nothing to say or do about education planning for the future. While the union government chases illusive ideals, state governments do not show leadership either.

The sorry state of learning in schools reflects all this and more. The conclusion that an ordinary person can draw is that in spite of mid-day meals, uniforms, and such other incentives to the child, the governments of this country are not serious about education at any level. As a result, private school enrollment is on the rise in most states. There are states where private school enrollment is around 50 percent or approaching it rapidly and there are the states such as Bihar, West Bengal, and Odisha where although there are not many private schools yet, the proportion of children going to private tutors is near 50 percent or more. This does not mean that private schools are providing 'good education', but the market is responding to a perception and a demand. The government, interestingly, is reinforcing the perception by reserving 25 percent seats in unaided private schools. In 8-10 years, in many states 70 percent or more children, including those from EWS will be in private schools if the reservation policy persists and the governments do not or cannot close down many unaided schools on grounds of RTE non-compliance.

This scenario has to be considered if equity is a concern. But, what is equitable access? Access to what?

In the end, whether in a private school or a government school, or even out of school, a child who learns to learn will be able to access more skills and more knowledge. The poorest children of this country can be given these basic tools that will allow them access to information and knowledge on more or less equal footing with some effort. The amount of information and knowledge growing in the outside world is so much and growing daily that no textbook bound curriculum can cope with it. In fact, schools and curriculum are lagging far behind the world outside and are increasingly becoming a bottleneck and a waste of time for a large majority of children where learning is concerned. The situation can be corrected but it requires a fresh approach. ❑

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New Role for MSMEs in India

P M Mathew

The policy frame and the promotional measures in India so far are intended to enable the small-scale units to withstand competition from the large-scale enterprises

ALL MODERN governments announce their position on a subject matter of public concern. In some cases, they come in the form of policy statements; in some others, legislative action is initiated. In most countries of the world today, public policy on SMEs gets manifested in either or both of the above forms. A content analysis of policy *per se*, as also of the policy process, is crucial for grasping the meaning and dimensions of policy, as it affects the lives of people.

The economics of the Gandhian concepts of "*gram swaraj* "and the *khadi* movement in the country are intertwined with the Independence movement. History shapes political systems, which in turn, provide the background for a policy process. Therefore, one needs to look into the making of this policy process, as also its relevance in the modern context.

Next to agriculture, small enterprises, captured by the rubric, "micro, small and medium enterprises "(MSMEs), is the most significant nutrient of the Indian economy.

Ingredients of an MSME Policy

Many micro businesses and self-employed persons operate outside the so-called 'formal' sector. They are increasingly seen as central to creating a democratic society and developing an 'enterprise culture'.

Governments alone cannot create that 'enterprise culture', but their actions can destroy or facilitate it. In many countries, governments have adopted full-fledged and comprehensive legislation for the small business constituency.

MSME Milestones in India

In India, the national Government's policy was concretized in the Industrial Policy Resolution (IPR), 1956, and associated institutional structures that came into being during the First Five Year Plan period. The First Five Year Plan which gave top priority for agricultural growth, gave "village and small – scale industries" a central place in the "rural development programmes".

The Second Five Year Plan came out with a clear statement on the respective roles of small and large industry in the policy

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and strategy of development in the country. While recognizing this imperative, the planners also gave due importance to traditional and rural industries. The Plan had two thrusts:1) development of small industrial capital which would be integrated into the general scheme of extended reproduction of capital; and 2) promotion of employment. The employment policy was focused on small-industries sector,with special emphasis on two vulnerable groups: 1) the educated unemployed; and 2) the working class.

The policy frame and the promotional measures in India so far are intended to enable the small-scale units to withstand competition from the large-scale enterprises. Industrial policy, over the years, has promoted SSIs through various incentives in order to fulfill socio-economic objectives.

The objectives of MSME policy, from time to time, were one or more of the following: a) creation of wage-employment with growth; b) generation of self-employment; c) creation of productive assets for the poor; and d) welfare-oriented employment programmes of the Keynesian type. However, since the mid-1960s, a more *target group oriented approach* has come into existence.

The Industrial Policy Statement (1977) stressed the wider dispersal of cottage and small industries into rural areas and small towns. It emphasised that "whatever could be produced by small and cottage industries, must only be so produced". This led to the expansion of the list of reserved items for exclusive production by the SSI sector. District Industries Centres (DICs) were introduced as a single promotional umbrella.

The Industrial Policy Statement, 1980 focused on integrated industrial development, and suggested the setting up of nucleus plants in those districts which were identified as industrially backward, with the expectation that these would help the spatial dispersal of small ancillary units and the existing network of SSIs would grow faster. SSI units were redefined by raising the ceiling of investment in plant and machinery. By the mid-1980s, an enhanced shift from an approach based on overall planning, to an increasingly sectoral or project approach was highlighted. Besides, the process of dereservation became a more pronounced feature of policy. Providing "gainful and high quality employment at least for the additions to the labour force" was one of the targets of the Tenth Five-Year Plan.

The era of economic reforms that was kick-started in 1990, brought in a new policy approach to the development of this sector. Dereservation and deregulation became the rule.

The National Common Minimum Programme (2004) focused on deregulation and technology upgradation, gainful and high quality employment, employment guarantee in rural areas, modernization and rejuvenation of the traditional sector, and systematic efforts for skill upgradation. A new thrust on a level playing ground for the MSMEs, was operationalized through:1) collective efficiency strategies; and 2) a comprehensive legislation for the sector, the MSME Development Act, 2006. The preamble of the Act affirms to "provide for facilitating the promotion and development and enhancing the competitiveness of small and medium enterprises". A new Ministry of MSME was set up, by merging the erstwhile Ministries of SSI and ARI. Besides, the all-India SSI Board was restructured and renamed as National Board for MSME.

The goal of enhancing the competitiveness of the small and medium enterprise" assumes a level-playing field for these enterprises. However, the findings of the Third Census indicate wide inequalities among these units. Of the total units, 97.7 percent were in the tiny sector. Consumers of electric power constituted only 73.77 percent. Number of units with outstanding bank loans was only 14.26 percent. Units maintaining proper accounts were only 29.43. The situation has not changed much as per the Fourth and latest Census also. These findings emphasize the need for a proactive labour market policy which offers the necessary conditions for grooming the job creators.

The Eleventh Plan, under its 'inclusive growth agenda', recognized the continuing need to facilitate the graduation of these enterprises to higher levels, particularly from the small to medium. Beyond this, the Twelfth Five Year Plan recognized the debilities of the country on the manufacturing front, and outlined the need for a National Manufacturing Policy. The Policy was announced in October 2011.

The implications of MSME policy should be understood in terms of four key areas: macro economic policy; b) labour market policy; c) regulatory framework; d) promotion and development. Unlike in many other countries, a synergic role of the government and the private sector has resulted in the moulding of the MSME sector into an engine of economic growth, employment, and balanced regional development in the country.

Promotional Programmes

The objective of the MSME programmes, as laid down by the Ministry of MSME, are: (1) to provide for facilitating the promotion ; and (2) development and enhancement of their competitiveness. The public programmes for MSME promotion in India should be viewed in the light of the overall regulatory regime in the country. Under a regulatory regime, which was largely dismantled recently, there was product reservation in particular areas of priority. There are six focal areas in which the policies and schemes of the Government of India have been shaped.

The vital needs of MSMEs, especially in a context of a global economic crisis, are two fold: 1) easing of rigidities in operation; and 2) allowing them to grab casual opportunities instantly. The importance of MSME Act 2006 need to be evaluated against this background. It provided a legally sound institutional base.

Declaration of payments outstanding to MSE suppliers has become mandatory for buyers in their annual statement of accounts. The practice of payments getting delayed still continues. It is necessary to have strong advocacy role and platforms that can take such issues forward. Given the track of many of the industry Associations today, there is not much hope in this regard. Credit guarantee scheme is another major initiative on the finance front.

The country has gone back on the manufacturing front. The National Manufacturing Policy suggests that industries in National Manufacturing Investment Zones should be given flexibility to downsize labour. India aims to increasing the share of manufacturing sector, which contributes over 80 percent in the country's overall industrial production, form 16-17 percent to 25-26 percent of the gross domestic product by 2020.

The Ground Realities in 2012

The global economy has been witnessing unprecedented changes that obviously have implications on the prospects of the Indian economy as also of the MSME sector in specific. India's strengths and weaknesses have to be examined in relation to its MSME sector having Europe as its major trade partner. The land-scape of India's export market has changed over the last one year. But one need to examine how sustainable the new relationships are.

Against the present global crisis, the emerging economies have come to the fore as a decisive block. There are ample choices before these countries; this applies to India as well. The strengths of India however, rest on a variety of objective and historical reasons that are specific to the country.

These are peculiar advantages which many countries of the world often do not enjoy. India's opportunities on the MSME front need to be understood against this background.

The Way Forward

The forthcoming comprehensive Report, entitled India Micro, Small and Medium Enterprise Report 2012,being brought out by the Institute of Small Enterprises and Development, Cochin, has come out with some important recommendations, worth considering.

A 'Focus Markets' Initiative

Five States of the country, ie.,Gujarat, Karnataka, Tamil Nadu, Punjab and Maharashtra, demonstrate some specific advantages from the point of view of promotional policy intervention as also, business case for the relevant stakeholders. The 'Focus States' approach is a strategic approach, in line with the spirit of the National Manufacturing Policy. There is need for consolidation and concentration of development initiatives in the above focus states.

Finance Parks

MSME finance has been a critical area of policy priority in the country. It has two key dimensions which need to be addressed: 1) lender's perspective; and 2) the borrowers' perspective. While the borrowers' perspectives have been significantly addressed by the government and MSME associations from time- to-time, the lender's perspective has not received the same treatment in the past. Therefore, the bankers have often been advised to provide *adequate* and *timely* credit, the business case that trigger a flow of credit in this fashion has not received the attention it deserves. 'Finance Park' is a concept that encourages concentrated action by banks in a particular region. It envisages horizontal integration of banks with a business case, rather than a single bank targeting a cluster of MSMEs.

The concept of 'Finance Park', which goes along with the spirit of the National Manufacturing Policy, is essentially meant to reduce the cost of credit, as vital information relating to lending policies is available at a single point.

Self-employment Exchange

In order to make self-employment programmes effective, there is an imperative to develop a market situation. A 'Self employment Exchange' is a trading platform where the scripts of MSME promotional agencies are bought and sold. Promotional agencies,

including NGOs, government agencies etc. can invest in this market. Donors can invest using their funds. Banks can utilize their CSR funds.

Advocacy Initiative

Even with the large size of the MSME sector, and the significant challenges it face from time to time, advocacy platforms are yet to take shape in India. Formal advocacy need to emerge as the outcome of a larger communication programme, involving various stakeholders, on a public-private partnership mode. The role of the government in this regard needs to be one of a facilitator.

Responsible Business Initiative

Despite the enhanced thrust on CSR, more needs to be done in order to extend its benefits to the SMEs. Initiative should happen at two levels: policy level; and operational level. At the policy level, the Competition Policy and the Competition Act need appropriate changes. While it is difficult to bring in a voluntary standards regime, the SMEs need to be sensitized in terms of the potential benefits that such a strategy may bring in.

Entrepreneurship Resource Mapping and Budgeting

On lines of the recommendations of the Task Force on Backward Area Development for the Twelfth Five Year Plan, a concept of *entrepreneurship resource budgeting* should be introduced in order to take care of entrepreneurship as a critical resource.

Strategy for Growth and the "Missing Middle"

The concept of 'meso finance gap" is now well recognized as a constraint on SME financing. The creation of a 'Growth cum Meso Finance Fund' is likely to draw the attention of both policy makers and financial institutions to this neglected area.

National MSME Health Service

A new institutional mechanism called 'National MSME Health Service' (NMHS) can meaningfully take care of the issue of MSME sickness. NMHS combines both expertise and judicial powers. It should combine three functions: 1) administration; and 2) re-engineering; and co-management of a Rehabilitation Fund. It should be manned by appropriate categories of personnel.

Employment Credit Scheme

Employment promotion measures should be supported by some incentive system that operate within the private sector itself. This can best be achieved by a National MSME Employment Programme, using '*employment credit'* as an incentivizing tool. Employment credit, like carbon credit can be transacted with an assigned value. Both individual enterprises, NGOs and other agencies can participate in this scheme, and thereby extent.

Growth Strategy

While there has been a focus on growth strategy in general, a special focus on MSME sector is yet to emerge. A growth strategy for the MSME sector need to be a comprehensive strategy with due weight age for the macro-meso and micro levels.

Investment Policy

Creation of a resource- sharing platform between the Centre and the State, in the area of MSMEs is vital. It should be based on some scientific criteria. It is advisable to think in terms of a National SME Fund, the size and structure of which is determined by a National MSME Finance Commission.

Shared Growth Commission

There is need for a system of voluntary disclosures on the part of the corporate sector, on the basis of a shared growth strategy, wherein the corporate sector should disclose their pending payments to the MSME sector. This should be armed with a shared growth index, like the one in South Korea, where the payment delays are tracked on a continuous basis, and delayed payments are exposed.

'Impact Investment' Model

'Impact investment' is a new concept that has great relevance in the Indian context. It refers to investments made based on the practice of assessing not only the financial return on investment, but also the social and environmental impacts of the investment that happen in the course of the operations of the business and the consumption of the product or service which the business creates.

Cluster Financing

Cluster development efforts in India are not sustainable. Focused capacity building initiatives are needed both for the Associations and the bank officials.

Conclusion

India's imperative relating to MSME development today is, setting right the priorities at two levels: (1) policy level; and (2) enterprise level. At the policy level, changes should happen quickly. Such changes should get translated into action instantly. The entrepreneur should be facilitated through fast moving BDS systems. A synergy of macro policy and micro support systems should happen. Effective communication and advocacy platforms should function as intelligent watch dogs. ❑

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NORTH EAST DIARY

GREEN ENERGY POTENTIAL IN MEGHALAYA

Taking a cue from Tamil Nadu and Karnataka, power-deficit Meghalaya is going all out to tap green energy to bridge the widening demand-supply gap in the state. A preliminary investigation conducted by the Meghalaya Non-Conventional and Rural Energy Development Agency indicated that the state could generate about 3155 MW of electricity through non-conventional sources of energy such as bio-mass, solar and wind energy. A GIS mapping, conducted by the Chennai-based Centre for Wind Energy Technology (CWET), an autonomous institution of the Government of India, said the state is capable of tapping between 40-90 MW of power from wind energy alone. The government agency in collaboration with CWET is presently conducting a feasibility study in the entire state to install windmills in at least seven selected sites across the state. Three Wind Turbine Test Stations have been installed in the southern slope of Meghalaya and four more will be added by year end.

These stations have been installed in Ladrymbai in Jaintia Hills district, Laitdiengsai in East Khasi Hills district and Mawiawet in West Khasi Hills district respectively. The other four will be set up in Skhentalang in Jaintia Hills district, Laitkynsew and Mawkynrew in East Khasi Hills district and Phodjaut in West Khasi Hills district. The preliminary information received from the installed centres indicated that wind blowing up the cliffs in the southern slopes of the state could be essentially tapped for almost throughout the year. The reason behind the idea of having wind-power project is because it is one of the most environment friendly means to generate electricity.

The testing stations installed at the mountain edge would actually give a rough idea on how much amount of power will be generated if a power windmill is installed. In a year's time, the data collected from these testing stations will be collected, condensed as statistical data before the government can come up with a formal detailed project proposal to set up windmills wherever feasible. Till date, the agency has lighted 134 remote villages where the Meghalaya Electricity Corporation Ltd. found it unviable to extend their power grid. In 2008, Meghalaya required approximately 610 MW of power and it spent several crores of rupees to buy power from outside to cater to its consumption. At present, Meghalaya Electricity Corporation Ltd (MeECL) generates 228.5 MW of power and receives about an equal amount of power from the Central power projects. ❑

IMPROVING ROAD CONNECTIVITY IN NORTH EAST

In a move aimed at boosting the road infrastructure in six States including Assam, the Asian Development Bank (ADB) and the Government of India have signed an USD 74.8 million loan agreement to improve connectivity in the North Eastern region. The loan constitutes the first tranche of the North Eastern State Roads Investment Programme, a USD200 million multi-tranche finance facility (MFF), expected to be executed in two tranches. Under the facility, a total of 433.7 km roads would be upgraded in six States– Assam, Manipur, Meghalaya, Mizoram, Sikkim and Tripura.

The project is expected to be completed by December, 2016. The Ministry of Development of North Eastern Region (DoNER) is the national executing agency.

The project would be ADB's first transport sector project in North Eastern region to develop and implement road investments that follow widely-recognised best practices in engineering design, pre-construction activities and project management. The programme envisages enhanced and Information Technology-based capacity development of the State implementing agencies including PWDs for improved road asset management, planning and project management. A road safety programme has also been incorporated with coordinated engineering, enforcement and education components. The first tranche loan of USD 74.8 million from ADB makes up to 68 percent of the total project cost of USD 109.8 million, with the Central and State Governments providing counterpart finance of USD 35 million. This loan from the ordinary capital resources of the ADB has a 25-year term, including a grace period of 5 years, commitment charges of 0.15 percent and interest rate in accordance with ADB's LIBOR-based lending facility. ❑

Indian Space Programme: Poised for A Quantum Leap

Radhakrishna Rao

Sharing of the knowledge and resources beyond the boundaries through international cooperation has been the hall mark of the Indian space programme

INDIA, WHICH, took its first modest step into space with the launching of a sounding rocket from the Thumba Equatorial Rocket Launching Station (TERLS) on the outskirts of Thiruvananthapuram way back in November 1963, is now poised for a quantum leap in space exploration as exemplified by the well conceived plans for planetary probes and human space flight mission. Having successfully launched its first mission to moon, Chandrayaan-1 in 2008 which realised all the scientific and technological objectives set for it, the Indian Space Research Organisation (ISRO) has built up the expertise and confidence required to forge ahead with forays into the deeper space in the years ahead. But then ISRO insists that while looking at the stars, its feet are firmly rooted in the ground. For the thrust of ISRO continues to be on diffusing the fruits of space technology into the mainstream of national development. Exploitation of the advances in space technology for societal applications continues to guide the progress of the Indian space programme in all its manifestations. As it is, the two widely acclaimed socially beneficial projects launched by ISRO—the Village Resources Centre(VRC) and the Telemedicine network—are based on the capabilities of INSAT communications spacecraft system and IRS earth observation satellite constellation operated by ISRO. Both INSAT and IRS systems are considered one of the largest such satellite constellations in operation anywhere in the world. And in keeping with its mandate of the peaceful applications of space technology for socio-economic development, ISRO has consistently championed the cause of keeping outer space free from the arms race. ISRO is clear in its perception that outer space, being the common heritage of humanity, should not become a battlefield of the future.

Analysts familiar with the Indian space programme are of view that the current thrust of ISRO towards planetary missions and manned flights is in keeping with India's

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emergence as an economic and technological power house. But then ISRO has made it clear that there is no dilution of the original vision of Dr.Vikram Sarabhai, the architect of the Indian space programme. Way back in 1960s, Dr. Sarabhai had noted. "We do not have the fantasy of competing with the economically advanced nations in the exploration of the moon or the planets or manned spaceflight. But we are convinced that if we are to play a meaningful role nationally and in the community of nations, we must be second to none in the application of advanced technologies to the real problems of man and society which we find in our country".

Another striking feature of the Indian space programme is the success it has been able to achieve with self reliance and that too on a shoe string budget. Starting literally from scratch, ISRO has been able to build a range of advanced satellites for a variety of end uses including communications and broadcasting, weather watch, earth observation and scientific research. Defying the technology denial regime, ISRO has successfully built a range of critical and technologically complex systems with indigenous efforts. Geopolitical compulsions have also nudged ISRO to take up the development of India's full fledged navigation satellite constellation named IRNSS (Indian Regional Navigation Satellite System). Evidently, IRNSS would help end country's far from reliable dependence on global systems such as GPS Navstar. Made up of seven satellites, the IRNSS constellation is expected to become fully operational by the middle of this decade.

Another major challenge that ISRO has taken up in the frontier area of technology and research is the development of space suit for the Indian astronauts who will make it into near earth space as part of the human space flight mission slated for a take off in 2016. To this end, ISRO has already signed an agreement with Bangalore based Defence Bio-engineering and Electro Medical Laboratory (DEBEL) for the design and development of the space suit which continues to be a closely guarded secret of a handful of advanced space faring countries. In this task, DEBEL will leverage the expertise it has already built up in areas such as life support systems, technical textiles and materials.

ISRO will also develop an autonomous crew vehicle complete with a life support system and a man rated launch vehicle to realise the human space flight mission. And as part of this human space mission, ISRO will also be building a third launch pad at Satish Dhawan Space centre (SDSC), India's national launch complex, on Sriharikota island on the eastern coast of the country. And in tie up with the Institute of Aviation Medicine (IAM), ISRO plans to set up an astronaut training facility at Bangalore by 2013. The successful accomplishment of the manned mission will make India the fourth country after the USA, Russia and China to send astronauts into space. Way back in 1984, Rakesh Sharma became the first Indian cosmonaut to fly into space on-board Russian Soyuz spacecraft.

By all means, the year 2012 stands out as both exciting and eventful for the Indian space programme. The successful launch of India's first microwave earth observation satellite RISAT-1 by means of the four stage, reliable space workhorse Polar Satellite Launch Vehicle (PSLV) in April this year marked a major technological breakthrough for ISRO. For only a handful of countries have built up the capability to engineer such a technologically advanced spacecraft system that can provide data on a continuous basis irrespective of darkness, haze and dust as well as cloud cover. The remote sensing satellites launched by ISRO so far were passive systems in that they can operate only under the conditions of brightness.

With the launch of RISAT-1, the heaviest ever satellite to be hoisted into space from the Indian soil, PSLV completed its 20th successful flight in row. The significance of RISAT-1, exemplifying intensive research and development work carried out by ISRO, lies in the fact that it has freed the country from dependence on the images from a foreign microwave imaging satellite. The data from RISAT-1 featuring a C-band Synthetic Aperture Radar (SAR) has applications in the areas of agriculture and disaster management. In particular, the RISAT-1 data will be immensely useful during Kharif season when clouds cover the skies in toto. Indeed, the data on standing crops made available by RISAT-1 during Kharif season would prove valuable for the planners to forecast the food yield with reliability.

Yet another ground-breaking achievement that ISRO can proudly look forward to is the forthcoming mission of PSLV slated for the third quarter of this year. This PSLV flight will launch a 800-kg Spot-6 French advanced earth observation satellite along with a 15-kg Japanese space probe as a piggyback payload. For

this mission, ISRO plans to deploy a core alone version of the four stage PSLV without its usual six strap on boosters attached to the first stage. This PSLV mission is a part of the contract that the Bangalore based Antrix Corporation, the commercial arm of the Indian space programme, has signed with the European company Astrium SAS . Though the exact fee charged for this mission has not been divulged, this order bagged by Antrix has been described as the highest ever revenue earning contract for the PSLV launch service.

Before the year 2012 closes in on, ISRO will also pull off a flight of its three stage Geosynchronous Satellite Launch Vehicle (GSLV) featuring a home grown upper cryogenic engine stage. The qualification of GSLV weighing little over 400-tonne will make India self reliant in launching its 2.5-tonne class INSAT communications satellites. Most of the INSAT class satellites now being operated by ISRO were launched by means of the Ariane space vehicle of the European space transportation company, Arianespace. Once GSLV attains operational status for routine flights, Antrix will offer its services to international customers for launching heavier class communications spacecraft.

ISRO is also developing a high performance version of GSLV named GSLV-MKIII, which, when ready by the middle of this decade, would be capable of placing a 4-tonne class satellite into a geostationary transfer orbit. The 629-tonne three stage GSLV-MKIII features an upper cryogenic engine stage with a propellant loading of 25-tonne. ISRO is also working on a semi cryogenic engine capable of generating a thrust of 2000-kN with liquid oxygen and kerosene propellant combustion for the common liquid core in unified launch vehicle.

And as part of its long term vision of not only reducing the cost of access to space but also making space missions a routine affair, ISRO has set its sight on realizing a reusable space transportation system based on complex and challenging technology of air breathing propulsion. An air breathing space vehicle makes use of atmospheric oxygen from the surrounding and burns it with the stored on-board fuel for producing the forward thrust in contrast to the conventional chemical fuel based space vehicles which carries both the fuel and oxygen.

So far, using PSLV described as a versatile space vehicle, Antrix has launched as many as 27 satellites belonging to customers from countries such as Algeria, Italy, Israel, Luxembourg, Belgium, Germany, Switzerland, Indonesia, Switzerland, Indonesia, Canada, Singapore and South Korea. Evidently, Antrix sees revenue surging 20 percent annually over the next five years on the back of the expanding launch services. The strong point of PSLV is its proven multi mission, multi payload capability in a single launch. In a spectacular display of its awesome prowess, the PSLV mission of April 2008 successfully delivered as many as ten satellites into orbit in one go.

In the area of satellite technology, through its alliance with the European company EADS Astrium, Antrix has delivered to the customers high performance W2M and Hylas satellites. And as part of its plan to emerge as a major player in the global market place for the delivery of custom made satellites on a turnkey key basis, Antrix has submitted several proposals to the satellite operators offering satellites based on flight proven satellite platforms. As it is, ISRO is continuously striving to upgrade its technological base for designing and developing futuristic spacecraft systems and as part of this vision it is planned to build hyper spectral earth imaging spacecraft and higher frequency communications satellites with a wider bandwidth capability. ISRO Chairman K. Radhakrishnan has revealed that over the next five years, ISRO would develop a 10,000-watts communications satellite capable of accommodating as many as 60-70 transponders. This satellite would also feature higher frequency Ka band transponders.

Another thrust area of Antrix is the global distribution of resources data obtained from India's IRS constellation of earth observation satellites through an expanding network of international ground stations. In the immediate future, Antrix has plans to strengthen the infrastructure for international data sales and business development in value added services.

In the ultimate analysis, the major focus of Antrix is on marketing and international promotion and exploitation of products and services related to the Indian space programme. In particular, Antrix markets subsystems and components for satellites, undertakes contract for satellites to user specifications, provides launch services and tracking facilities and other related services. The customer base of Anrix is made up of the leading space companies from across the world including EADS Astrium, Intelsat, Avanti Group, Inmarsat, Worldsat, KARI (Korea

Aerospace Research Institute), Eutelsat, OBA Systems and several other space industries in Europe, Middle East and South East Asian countries. Antrix's growth strategy is based on rapidly expanding its business to new geographical areas and enhancing the range of services and products offered by it.

Indeed, Antrix, with the active support of the Indian industry is gearing to meet the challenges of competing in the multi billion dollar global space market. Currently, around 500 Indian industrial units are actively contributing to the Indian space programme by way of the supply of hardware, systems and services for various projects of ISRO.

But then in the context of the growing frequency of space missions, ISRO is looking at the possibility of involving the Indian industry in the production and delivery of communications satellites and PSLV on a turnkey basis and ready to use condition. The idea behind roping in the Indian industries for the production and delivery of satellite and launch vehicle systems in an integrated manner is to enable ISRO researchers and engineers focus more on research and development aimed at evolving the concept of next generation satellites. This approach would free ISRO from engaging in the repetitive exercise of building communications satellites and launch vehicles. "We want to explore the possibility of producing PSLV and the communications satellites through the industry," observed Radhakrishnan.

On another front ISRO's contribution to the area of space science is commendable. As part of its "Vision 2025" strategy, ISRO plans to explore Mars, Venus and asteroid belt. Everything going as planned, India's Mars orbiter, the first ever Indian mission to the Red Planet, will be launched sometime next year by deploying PSLV which was also used for hoisting Chandrayaan-1 into space. The scientific objectives of Mars orbiter will focus on life, climate, geology, origin, evolution and sustainability of life forms on the planet. ISRO is also working on Aditya, a mini research satellite meant to study sun's outermost region called corona. Aditya, India's first space based solar research probe, will also be launched by means of PSLV. Also lined up for launch in the near future is Astrosat, the first dedicated Indian space borne astronomy mission. This astronomy research satellite will enable multi wavelength observation of celestial bodies and cosmic sources in x-ray, visible and UV spectral bands simultaneously.

However, the high point of the Indian space programme would be the launch of Chandryaan-II, a follow up mission to Chandrayaan-1. Chandrayaan-II which will be launched by means of GSLV will be an orbiter cum lander mission. ISRO, which has already finalised the payloads going into Chandryaan-II probe, expects this lunar mission to help further improve our understanding of the origin and evolution of the moon using instruments on-board the orbiter and in-situ analysis of lunar samples and studies of lunar regolith properties using rover. Chandrayaan-II is planned for launch in 2014.

Sharing of the knowledge and resources beyond the boundaries through international cooperation has been the hall mark of the Indian space programme. ISRO continues to pursue bilateral and multi lateral cooperative relations with space agencies and space related bodies from across the world. Through international cooperation, ISRO continues to take up new scientific and technological challenges; refine space policies and define international frameworks for the exploitation and utilization of outer space for peaceful purposes apart from sharing space products, services and technological expertise. With technological advancements among the space faring nations and the awareness among the rest, the scope of international cooperation has become wider and diverse globally in recent times and ISRO strives to make use of such opportunities effectively.

In keeping with this vibrant philosophy and broad outlook, during his May 2012 visit to the South Korean capital of Seoul, Indian Prime Minister Manmohan Singh had offered Indian launch support for a nano satellite developed by the university students in South Korea. Interestingly, way back in 1999, PSLV had orbited South Korea's Kitsat-3 satellite as one of the piggy back payloads under a commercial terms. Prior to that in 2009, Singh had offered to make available resources data from Indian remote sensing satellites for monitoring natural disasters in South East Asia. He had also offered Indian help in launching small satellites built by South East Asian countries. Not surprisingly then the scope for international cooperation in space seems to be as vast and wide as outer space. ❑

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Saving their Culture

Jigmat Lhamo

The most inspiring role the SHGs play is that of benefitting not only the women but the community as well

SEVERAL THOUSAND kilometres away from mainstream India as we know it, defying all claims that brought shame to our country by being labelled the world's most dangerous place for a girl child, is an age old tradition in a little-known land of desert and snow that treats its girls in a manner worthy of emulation.

Ladakh town in the northernmost Indian state of Jammu and Kashmir is one such pocket that breaks the pattern of inequality. Practices like female infanticide and other atrocities on women makes for frequent news reporting in our metropolitan cities, but in Ladakh, contrary to these grisly reports, the status of a woman is akin to a vibrant streak complementing the otherwise arid milieu of the region.

Your first step in this high altitude region will be greeted by the wide and candid smiles of the Ladakhi women. Not peeping from the windows or from behind the veil–there they stand strong in the agricultural fields, poise, self-respect and strength of character reflecting on their enigmatic faces, flaunting the strong cultural position they enjoy in their community.

Traditionally, the household was the focus of the economy in Ladakh, at the core of informal sector spearheaded by women. It played a much larger role than the formal sector, giving women a respected status in the entire region.

Till date, the tradition is alive in the cold desert in form of the Self Help Groups that are active in the wide-spread interior villages of the region and are run chiefly by the women members. With the opening up of the region to the outside world around 1974, there was a massive disruption in the economic, cultural and political aspects of the traditional culture of Ladakh. This produced a need among the community to protect its culture, a need met by the birth of the SHG movement in the region.

In Ladakh, a small group of local women varying in numbers from six to fifteen come together with dual aims – to empower the women in the changing times and to strengthen the indigenous culture and agriculture. Most of the women, being house wives, complete their daily chores and then contribute to the group. Spinning wool, knitting woollen clothes (sweaters, gloves, caps etc.), and dyeing the woollen clothes in a traditional manner.

The most hardworking season is the season of farming. Following the trend set by the older generation, everybody helps everybody else in the agricultural field. This community task becomes priority for these hard working women in this season as the agricultural produce sets the base of many SHG products. Apricot jam and seabuckthorn juice are the highest income generating products. Besides, decorative home items and local winter clothes are also manufactured in these SHGs which are sold in the Leh market. The income thus generated is used for the benefit of the members and society at large.

One such small alliance of women is the 'Shashi Self Help Group' that started with six women members in the Chashut Village. Today, it has around fifteen members actively involved in the group's activities. The most inspiring role the SHGs play is that of benefitting not only the women but the community as well. Sharing the success of her group, the proud and enthusiastic President, Amina Khatoon said, "After working for five years in this village, we have achieved a lot of improvement not only in our work but the lifestyle of the villagers. We have started spreading awareness among the villagers on crucial issues like health and sanitation. We are working with various government agencies to improve the standards of the village."

The communities, with support from various non- government organizations, are working towards reviving the ethnicity of the cold desert region. In almost every village, efficiently working away is the Women's Alliance of Ladakh, locally known as "Ama - Tsogspa" that was started in 1991. Members of the alliance are involved in certain income-generating activities like weaving, knitting, gardening and sewing. Elderly women actively participate in various social activities, thereby imparting their customary knowledge to the newer generation. They maintain a healthy coordination with their male counterparts in such fields.

However, the intentions of these self-reliance groups face a setback due to the remoteness and lack of resources and raw material. Wool, pashmina, apricot and seabuckthorn are available locally but the products they generate are sold in Ladakh only and not in the national markets. The quantity produced is therefore unable to create demand at the national Level.

"I learned to make handicraft goods from my friend from the southern region. When I came back to my village with the training, I contributed to the group with the skills and later became the instructor here. But here we don't get raw materials for making the handicraft items. We are always in search of alternative source from where we can get raw material here in Leh," said Zara Bano, Instructor at the Shashi Self Help Group.

In the month of February and March, workshops were organized by Handicraft Department, Leh and by Government of India Ministry of Textiles, Development Commissioner Handicrafts Marketing and Services Extension Centre, Leh Ladakh, respectively. These workshops witnessed huge participation from these SHGs who took it as an opportunity and wanted to make the most of it. Such is their yearning to learn.

These SHGs have been a vector of change in the lives of the Ladakhis. If provided with training and a platform to sell their products, they can bring a social reform in the society. Their history has always been like that of a warrior-strong and committed towards their society. By improving their efficiency, their potential can be tapped for the benefit of the society. They have carved their faint footsteps in the snow desert; a little support from the administration will indeed strengthen these footsteps to lead the future generations. ❑

Charkha Features

Skill-Upgradation in Five Year Plans

K N Pathak
J S Tomar

One of the key challenges before the Government is to raise the proportion of trained youth significantly to enable India to emerge as global leader

DYNAMICS OF Indian economy has been changing over time from agricultural to industrial economy, industrial to services economy. Agricultural economy absorbs all sorts of labour force whether skilled, semi-skilled or unskilled. However, industrial as well as services economics has some limitations. It requires skilled or at least semi-skilled persons and very less scope for unskilled one. In view of this, training/skill-upgradation has been one of the key concerns of the Government since the days of foundation of our planning, addressing to the issue of economic development. Training policy has been evolved over successive Five Year Plans and steps have been taken in response to the training requirement/ skill-upgradation of employable/employed persons. This article aims at analyzing the steps taken by the Government over successive Five Year Plans in our country to meet the requirement of training and skill development for gettingg productive and decent employment.

In the First Five Year Plan (1951-1956) one of the key issues identified in the Labour and Employment sector was devising ways and means of utilizing the labour power for productive purposes so as to increase the volume of goods and services available in the country and to raise standard of living all around. It emphasized that the correct assessment of long-term and short-term requirements of different types of skilled man-power both in its technical quantity and quality is important from the point of view of the expanding industries and of several development projects included in the Plan. It also suggested for undertaking a pilot study where major schemes are likely to be undertaken. This Plan gave special consideration to unemployed workers in Apprenticeship and training arrangements.

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During the Second Five Year Plan (1956-1961) the emphasis was laid on training of craftsmen and the training facilities were expanded by trebling the seats under from 10,300 to 30,000. Efforts were also made for increasing the period of training and, in general, improving its quality. A National Council for Vocational Training (NCVT) was set up by the Government to implement the scheme of Craftsmen Training by State Government in collaboration with Ministry of Labour, Government of India.

In the Third Five Year Plan (1961-1966) a well-organized Apprenticeship Training Programme for industrial workers was introduced under which apprentices were placed in the factories. Reorganization of the system of education and provision of facilities for technicaland vocational education were identified as issues of paramount importance.

In this Plan one of the priorities was formulating an effective design for better utilization of rural manpower**.** Accordingly, a comprehensive programme of rural works was undertaken. It was significant not merely for creating additional employment opportunities which were required, but even more as an important means for harnessing the large manpower resource available in rural areas for the rapid economic development of the country.

With the expansion of education at the secondary level, attention was given to absorption of educated persons into gainful employment. The number of educated unemployed, who would have registered with employment exchanges during the this Plan was estimated at nearly one million. The number of new entrants to the job market who had studied upto the school leaving standard and above was estimated at about three million.

The Fourth Five Year Plan, (1969-1974) laid additional emphasis on development of major, medium and minor irrigation schemes and flood control which were expected to provide increasing employment opportunities apart from under-employment relief in the rural areas. Allied to the irrigation schemes were programmes of flood control, drainage and anti-water logging which involve substantial construction activities providing extensive employment opportunities to skilled and semi-skilled workers apart from civil engineers and other highly trained technical personnel. In this period, a special scheme was also formulated by the Ministry of Industrial Development for promoting self-employment among engineer entrepreneurs by imparting suitable training and by encouraging commercial bank to advance loans to them for starting small scale industries.

The succeeding Fifth Five Year Plan (1974-1979) emphasized on training institutions such as the Central Staff & Research Institute, the Foreman Training Institute and the Central Training Institute for Instructors. The schemes like strengthening and extension of Advanced Training Institute, expansion of Apprenticeship Training Programme, Vocational Training in Women's occupations were provided financial support.

In the Sixth Five Year Plan (1980-1985) with the increasing unemployment and under-employment Government stressed that persons should be employment provider instead of being employment seeker. Thus, this Plan focussed on identifying the areas having high potential for self-employment. Emphasis was laid on organizing orientation courses and training to be organized on a massive scale for providing necessary facilities for self-employment. The National Scheme of Training Rural Youth for Self Employment (TRYSEM) was introduced by providing incentives to set up their own ventures. The important employment/ beneficiary oriented programmes implemented during this Plan period were National Rural Employment Programme (NREP), Integrated Rural Development Programme (IRDP), the Rural Landless Employment Guarantee Programme (RLEGP) and the scheme for Self Employment to Educated Unemployed Youth. Other training facilities available through different Boards, like the Handicraft Board, Dairy Development Board, etc. were expanded. Due attention was also paid on maintaining linkages between the trainees and training institutions until the trainees become self-reliant.

During the Seventh Five Year Plan (1985-1990) it was observed that employment generation as an objective does not mean the adoption of a static technology and it is not advisable to insulate the economy from the world trends in technological changes. Hence, in this Plan, emphasis was laid on having a clear view on formulating efficiency and employment effects downstream before setting about the management of technological change. Stress was laid on suitable arrangements and adjustment

policies in terms of education, training and re-training and re-orientation of workers in order to avoid dislocation effects and make the process of technology adoption smooth. It was also resolved that the problem of educated unemployed should be tackled through proper educational planning and scheme of training, skill formation and entrepreneurial development.

In the Eighth Five Year Plan (1992-1997) Craftsmen Training and Apprenticeship Training were prioritized as two major programmes of Skill Development designed to meet the diverse skill needs of the economy. Intake capacity went upto of 3.70 lakh in 67 engineering/non-engineering trades. To cater to the need of advanced level training for workers in industry, training of instructors, development of curricular and instruction material and research in training, the institutions set up were Seven advanced training institutes, one Central Training Institute, Two Foremen Training Institute, one Central Staff Training & Research Institute and one Central Instructional Media Institute.

Paying due attention to unemployment prevailing among the women, the special focus was given on vocational training facilities for women. Out of 2240 Industrial Training Institutes (ITIs) / Industrial Training Centres (ITCs), there were 154 women ITIs / ITCs and 129 women wings in General ITIs to specifically cater to vocational training needs of women. In addition to that, there was a National Vocational Training Institute for Women at Noida and six Regional Vocational Training Institutes for Women which was also provided facilities for training in a three-tier system, namely, basic skills, advanced skills and instructional training in selected trades having high employment potential.

In the Ninth Five Year Plan (1997-2002) it was observed that training programmes being standardized on a national basis lack the desired flexibility to meet the regional and local needs of women. Taking due cognizance of the significance women labour force, employment exchanges were directed to take special care to cater to the job need of women registered with them. Directorate General of Employment &Training (women directorate) was assigned a specific role in making linkages in respect of women training between Ministry of Labour & Employment and other concerned Ministries.

In this plan, the Government of India also resolved to strengthen the accreditation facilities for the training institute on the pattern of the All India Council Technical Education. Emphasis was laid on the reducing the training cost per seat and making the course contain responsive to the local industries. Expanding the vocational training facilities in North-Eastern States was also emphasized with support from the Central Plan for Ministry of Labour and Employment.

The Tenth Five Year Plan (2002-2007) focused on finding new ways of generating resources to expand the capacity for training so that the training system can absorb the large number of new entrants to the labour force**.** It also resolved to encourage State Governments to cover practically all the training institutes by the Institute Management Committee. Modification of Apprenticeship training scheme keeping small employers in mind was also accorded priority A strategy for skill building in the informal sector was also suggested to be taken in this Plan**.**

It was observed that only about 5 percent of new entrants to labour force enter the world of work with any kind of formal vocational training. To fill this gap, a joint endeavour of the employers, the educational infrastructure and labour administration was envisaged.

In the Eleventh Five Year Plan (2007-2012) focus was on advancement of those skills which have to be relevant to the emerging economic environment. With this perspective, a very high priority was accorded to higher education. To meet that part of the challenge of skill development initiatives target was set for establishing 30 new Central universities, 5 new IISERs, 8 IITs, 7 IIMs, 20 IIITs, etc.

It has also been felt that the skill development system is non-responsive to the labour market due to a demand-supply mismatch on several counts such as numbers, quality and skill types. Some of the other key challenges identified in this context have been the following:

- Over supply in some trades and shortages in others due to inflexibility in the course/ curriculum setup.
- Low placement/ absorption rate observed through labour market outcomes.
- Regional disparity with over half of the ITIs/ITCs located

in the southern States, both in terms of number of institutions as well as number of seats.

- Sub-standard infrastructural facilities, tool/kits, faculty, curriculum.
- Weak testing, certification and accreditation system.
- Lack of industry–faculty interaction on course curricula and other factors.

Recent data has shown that our education system and vocational training programmes have not been able to provide the adequate size of skilled manpower. As per the NSSO 61st Round (2004-05) survey, among the persons of age 15-29 years, only 2 percent are reported to have received formal vocational training and another 8 percent have received non-formal vocational training. This indicates that very few young persons with formal vocational training enter the workforce. This proportion of trained youth is one of the lowest in the world. Thus, one of the key challenges before the Government is to raise the proportion of trained youth significantly to enable India to emerge as global leader.

Third Session of Standing Labour Committee organized by Ministry of Labour & Employment, Government of India in February, 2009, focused on skill deficit mapping. The National Policy on Skill Development approved by the Union Cabinet on 23rd February, 2009 envisages setting up of Labour Market Information Systems and Human Resource Planning for the reliable and realistic assessment of economic trends and labour market needs. The policy also included the provision of setting up of a National Vocational Qualification Framework and quality assurance mechanism. For skill demand analysis and curriculum development, Government set up a National Skill Development Corporation (NSDC) with responsibility to constitute Sector Skill Councils which include identification of skill gaps, preparation of skill development plans, determining skills/ competency standards and qualifications.

Skill Development Initiative scheme started in this Plan with a provision of Rs.550 crore, one million persons are targeted to be provided training. Thereafter, one million persons will be trained every year in Modular Employable Skills (MES) with multi-entry and multi-exit options in flexible delivery schedules. In order to meet the growing need of skilled manpower of different sectors of economy, the Government also decided to set up 1500 new ITIs and 50000 skill development centres.

It is felt that to maintain the pace of global economy and play a lead role in the growth process India should grow at rates of 8-9 percent per annum over the next three decades and create new jobs for its young population. It is also observed that we are passing through a window of demographic transition which is a rare historic phenomenon. It is important to note that India is having world's youngest workforce with a median age way below China and Organization for Economic Co-operation & Development (OECD) countries. It is also important to note here that India being one of the youngest countries in the world with about 50 percent of its population below 25 years of age and with a large English speaking population is well poised to help countries with graying populations. India is expected to add nearly 138 million to its working age population by 2021-22. India's present growing population is being increasingly recognized as a strength rather than a bottleneck in the context of economic development. However, to avail this demographic advantage India will have to overcome shortcomings with its present skill development system. To meet the target of skilling/ up-skilling 500 million people by next decade transformation in India skilling landscape is a fundamental requirement.

The approach to the Twelfth Five Year Plan (2012-17), focuses on mainstreaming skill formation in the formal education system right from class 10 onwards and establishing an institutional mechanism for providing access to information to skill inventory and skill maps on a real time basis. The approach of the Government is that while the accreditation of certification process should be done by independent, specialized agencies with certification be left to the institutions. A system of funding poor people for skill development through direct financial aid or loan and Apprentice training as another mode for on-job training has also been emphasized. By eliminating the constraints of Skill development programmes, India would not only succeed in helping the countries with graying populations but it would also be able to provide/ upgrade requisite skills of the new entrant in the labour force. This approach would help India out beating China, which is leading the world at present. ❑

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