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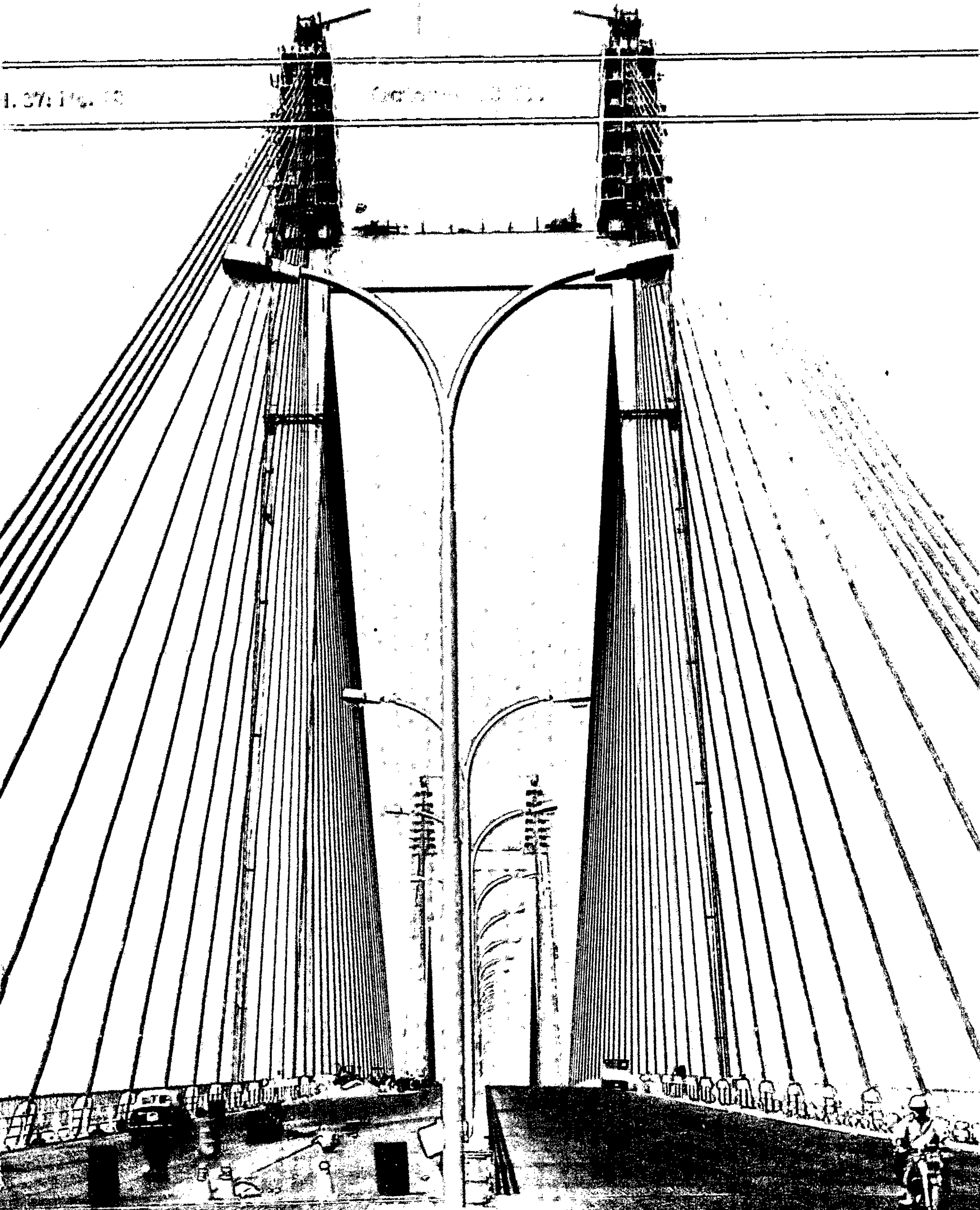

Development Diary

INSAT 2-B Fully Operational

THE second indigenously built second generation multi-purpose geostationary satellite, INSAT-2B has been successfully placed in its orbital position and all the payloads have been switched on. The spacecraft has been declared fully operational.

The 1932 Kg. satellite was successfully launched by the Ariane launch vehicle on July 23, 1993 and was injected into a geostationary transfer orbit. Immediately following the launch several critical manoeuvres were carried out using the systems on board the satellite by the INSAT Master Control Facility at Hassan in Karnataka. The satellite was first placed in a near geosynchronous orbit, nearly 36,000 km above the earth by firing the liquid apogee motor in three stages. Then the spacecraft was allowed to move slowly towards its final orbital position at 93.5 Degree East longitude and all the deployments were carried out. INSAT-2B achieved its full in-orbit configuration on schedule due to the excellent performance of all the systems on-board.

INSAT-2B carries 18 C-band transponders including six in extended C-band, 2 high power S-band transponders, a Very High Resolution Radiometer for meteorological imaging, a Data Relay Transponder and a Search and Rescue playload. A series of extensive checks and characterisation of all the payloads have been carried out and the Spacecraft was put into regular operational use on August 15, 1993.

INSAT-2B will add capacity to the INSAT system for more long distance telecommunications circuits, business networks, remote area communication, teleconferencing, national and regional TV networks, Satellite TV channels, messaging and data net-works. The Search and Rescue Payload which is a new feature added to the INSAT-2B system will instantaneously detect distress alerts over a vast region around India for taking appropriate rescue measures. INSAT-2B, like INSAT-2A, is a complex and state-of-the-art spacecraft, and has been entirely designed and built in India with minimal imported parts and components.

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Exit Of Unviable Units Recommended

Mahesh Prasad

THE process of restructuring of the Indian economy has largely remained incomplete in the absence of an efficient mechanism for the rehabilitation of sick and winding up of unviable industrial units. The new Industrial Policy, announced in July 1991, had eliminated the process of industrial licensing for a large number of industries and dereserved all but 18 industries from the list for the exclusive entry of the public sector. It had, however, not strengthened the machinery to deal with industrial sickness, which has become widespread over the years, and guaranteeing the right to entry had not provided the right to exit. It has been the persistent demand of both the domestic industry and foreign investors, whom the government has been soliciting, that it should announce an exit policy. The Onkar Goswami Committee has dealt with all aspects of industrial sickness and restructuring, including the right to exit in a very comprehensive manner. It has identified financial sector reforms as the key element in restructuring and reorganising the industrial sector and suggested amendment to various laws, including the Sick Industrial Companies Act (SICA), to facilitate the process.

As the Committee itself says the long term success of India's economic reform process depends upon sustained growth in industrial output and investment. Without this, there cannot be a genuinely competitive industrial base from where India can launch an export drive to systematically reduce its debt service obligations over time. The Committee says industrial sector reform is not just eliminating licensing and other barriers to entry. It requires giving signals to potential entrepreneurs about the scope for operational flexibility—in the choice of output, of markets, and in the use of labour and capital. Industrial restructuring, it says, involves commercially reorganising ailing, but economically viable firms, facilitating the withdrawal of unviable ones and reutilising the land and labour thus freed in the best possible manner. Having said this, the Committee expresses its unanimous view that barriers to industrial and corporate restructuring serve no economic goal and are anti-labour. Although the restraints seek to protect the labour in the short run, these actually harm long and medium term employment by eliminating growth possibilities.

Over the years, industrial sickness, which refers to an industrial or a manufacturing firm, performing systematically worse than average, not covering its fixed costs and frequently reneging on its debt repayment obligations, has become pervasive in the country. It is pervasive across ownership—public or private—across industries, across states and across scale—small, medium and large. The extent of sickness could be seen from the amount of outstanding credit to sick units, which has gone up from Rs. 2,585 crore in 1982 to Rs. 9,353 crore in 1989, growing at the rate of 18.4 per cent compound per year. In the public sector, there were 98 loss making Central government non-departmental companies and their total losses amounted to Rs. 1,959 crore in 1989-90.

The Committee has recommended a package of measures, which it claims would not only go a long way in ameliorating industrial sickness "but, more importantly will create a much more economically rational, market driven, competitive industrial structure, which is governed by far fewer contradictory and perverse signals than before". The report covers a broad spectrum of issues, such as SICA and the working of BIFR, project appraisal by financial institutions, corporate law, land and labour laws, the role of the Reserve Bank of India, financial instruments in debt-equity conversion and development finance.

Terming SICA as 'Backward' looking and BIFR process as 'time consuming', the Committee has suggested changes in SICA definitions and organisational changes in the

BIFR to address the basic issues in industrial restructuring. It has also presented a legal draft of an amended SICA that incorporates most of its suggestions. It has suggested that three phrases, "preventive", "ameliorative", and "remedial", need to be omitted from the preamble to SICA—all closely related to 'rehabilitation'. Instead it is necessary to incorporate the basic idea that SICA is meant to promptly decide, through a single facilitating agency, the case for reorganising ailing companies either through feasible reconditioning of its assets and liabilities, or through rapid winding up and quick sale and distribution of its assets. It has also suggested that a sick company's own reference to BIFR should be voluntary, not mandatory. This is with a view to giving freedom to the firm and its secured creditors to work out a reorganisation package outside of BIFR and, hence lessen the administrative burden. It suggests that the new SICA should eliminate altogether the negative networth criterion. The definition of sickness should change to default of 180 days or more to term lending institutions, or irregularities in cash credit or working capital for 180 days or more.

Under the procedure set out by the Committee, when a company thus turns sick', the secured creditor would have the option of moving High Courts or Recovery Tribunals to recover secured assets of the company. If the company refers to BIFR, the Board would instruct the management or promoter to prepare a reorganisation plan within 90 days that can satisfy the secured creditors. If creditors representing three-fourths of the secured debt were satisfied by the plan, it would become a sanctioned scheme of the BIFR. If not, then the Board would give the firm one last attempt to prepare an alternative plan within another 60 days in consultation with the secured creditors, the government and labour. If the second plan is not accepted by creditors representing more than three-fourths of the creditors of the secured debt, then BIFR would automatically recommend the company to the Recovery Tribunals or to be wound up under Section 20(4) of SICA. The Committee has recommended that there should be deeming provision in this regard in the amended SICA once the 150-day deadline has passed without a scheme being sanctioned.

Facilitator

Having taken the view that the main reason for delays in BIFR proceedings is its quasi-judicial nature, the Committee visualises the Board to play the role of a fast-track facilitator and, occasionally an arbitrator. This is all the more essential as the Committee desires early detection, which would mean more cases, even when references are voluntary. To ensure that BFIR plays the role of a fast-track facilitator, the Committee has suggested that it should be a forum for decision-making and not for seeking clarifications and explanations and that it should give a specific date for next hearing, if necessary itself and not leave it to officials. Besides, it has appropriately suggested that the existing vacancies to BIFR at the bench level should be filled by appointing eight members, who are experts in finance, taxation and corporate law, as also upgrading of human resource and skills within BIFR. Moreover, it says that it was essential for BIFR to use the winding up provisions of section 20(4) of SICA more frequently, not only to expedite the sale of economically unviable firms, but also as a threat to force the pace of decision-making and consensus among various parties.

Calling for early implementation of financial sector reforms as recommended by the Narasimham Committee, the Goswami Committee says, RBI's guidelines for rehabilitation must be altered to abjure the notion of sacrifices and instead address the basic issues in appraisal, such as no write off on new loans. If partial write off is necessary, it should be explicit and only on past debt and the non-written off exposure to be charged and discounted at market rates of interst. Whenever write offs are taken, these should be in the form of debt-equity conversions. The Committee has suggested that the Central Board of Direct Taxes (CBDT) should remove all tax hurdles that prevent banks and financial institutions from converting debt to equity of sick companies, particularly when this is recommended by BFIR. It has recommended that similar benefits must be extended to merger proposals designed under SICA. Further, it has suggested that the RBI replace its Health Code System (HCS), which reviews incipient sickness over a six month period, by Revised Irregular System (RIS), which is a system of monthly monitoring based on number of cheques bouncing or bills dishonoured. To keep a track of creditworthiness of promoters, the Committee has suggested that the financial institutions should create a common information pool about firms that have defaulted, entrusting the work to an independent and reputable credit rating agency, like CRISIL. Finally, the Committee has suggested amendment of the existing Companies Act enabling creditors in the case of defaults of more than 180 days to secure a change in management, which can include the entire board of the company, or replacement of the chief executive by a person of their choice. Unless these changes are secured within a given time frame, the creditors may be enabled to stop giving any further funds, including working capital, attach properties and assets, or attach equity shares in lieu of default.

Other Subjects

The Committee deals with two other important subjects, amendment to Urban Land (Ceiling and

Regulation) Act 1976 (ULCRA) and amendment to Industrial Disputes Act. Amendment to ULCRA is necessary to enable sale of surplus land of an unviable firm to generate substantial funds for repaying the whole or a part of the outstanding debts and also for meeting the cost of rationalising the labour force. It has suggested that the Central Government should take the lead by asking Union Territories to grant exemption under section 20 and 21 of ULCRA, particularly for BIFR schemes. It should also convene a conference of states, which have accepted and implemented ULCRA, to persuade these states of the need to amend sections 20 and 21 with a view to granting exemption to schemes recommended by BIFR subject to regional master plans. It has also suggestd that the government must involve the Housing Development Finance Corporation (HDFC) and other reputable financial institutions in formulating a specific, clearly sequenced, commercially viable plans for urban redevelopment through sale of excess land.

Regarding Industrial Disputes Act (IDA), the Committee's ire is against sections 25(N) and 25(O), which seek prior state government approval before retrenching workers or closing down an establishment. It has suggested that the government must amend sections 25(N) and 25(O) in a manner that there should be no need for applying to the appropriate government. Further, it has said that while in theory, any retrenchment or labour rationalisation recommended by BIFR under a sanctioned scheme overrides provisions of 25(N) and 25(O), this needs to be clearly notified and publicised since Labour Commissioners of many state governments seem to be unaware of it. Further, it has suggested that the government should amend the clause relating to compensation for retrenchment and closure and increase it from 15 days wages to one month's wages per year of completed service.

The Committee has also made a few suggestions to avoid pilfering of assets by the promoter after BIFR's decision and on getting good value for assets. It has suggested that the High Court should appoint a provisional liquidator to take custody of the company's property as soon as BIFR forwards its recommendation to prevent the promotor from stripping the assets of the company and selling of as much of moveable property and inventory as possible. The promotor is able to do so as the period between BIFR's decision and the winding up order by the Court is totally unprotected and unpoliced, outside the pale of SICA and also of the winding up provisions of the Companies Act. Further, Section 20(4) of SICA empowers BIFR to sell the assets of a company that is to be wound-up, and transfer the sale proceeds to the concerned High Court for distribution to claimants. Further, the Committee has recommended the sale of a company's assets in a dismantled form, and not as a 'going concern', to realise the best value of these assets. Lastly, it has suggested that to truly reduce the problem of delays in winding up, there must be five fast track Winding-up Tribunals, situated in Bombay, Calcutta, Madras, Delhi and Bangalore. These Tribunals should only examine winding-up cases and, to that extent, expedite the process. The government should investigate the possibility of barring overlapping jurisdiction of civil courts in the affairs of the Winding-up Tribunals and seriously consider introducing summary procedures in winding up cases.

The report, as could be seen, is comprehensive and takes care of every detail. The only criticism is that it is as good as "exit policy", although in a disguised form. The report leaves no one in doubt that efficient winding up of an unviable concern and getting the best value for its assets are its main preoccupation. As the committee has put it barriers to industrial and corporate restructuring serve no economic goal and are anti-labour, for although these restraints seek to protect labour in the short run, these actually harm long and medium term employment by eliminating growth possibilities. In so far as the Committee has recommended a hundred per cent increase in retrenchment compensation and has sought to ensure the best value for a company's assets on winding up, it has kept workers interest also at heart. Additionally, the government could take care of the surplus and retrenched workers through schemes formulated under the National Renewal Fund. The Committee having presented its report to the Finance Minister, it is for the government to discuss the report with labour leaders and others concerned and, if necessary, to improve upon the report to ensure its smooth implementation. This is no doubt a difficult task, but a dialogue is a must to seek the goodwill of the workers, which alone could make a success of industrial and corporate restructuring.

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Gandhi And The Indian Economy Today

Malcolm S. Adiseshiah

GANDHI in his living, thinking, teaching, and in his death is an inexhaustible subject, with no beginning and no end. Out of this, his multifaceted life and personality, I wish to limit myself rather narrowly to only one facet, that is, to Gandhi's views on economic matters, with particular reference to the Indian economy. I am not approaching the subject in terms of what has come to be called Gandhian Economics—a term coined even during his lifetime and in use even till today—for two reasons.

First, Gandhi is larger than economic science. He made it clear that he was not an economist in the professional sense. He had not read Adam Smith, David Ricardo, the Mills—the father and the son—, and Alfred Marshall. He drew his thoughts on economic affairs from three sources. The first was his deep ethical-spiritual convictions, the second was his close involvement with the economic conditions of the people, particularly the rural people who formed over 80 per cent of the people in the country in his day, and the third was his reading and reflection and the results of his putting into action what he read of the Utopian Ruskin's *Unto This Last and* Tolstoy's *The Kingdom of God is within You.* It was these three sources that he reflected and acted on from his South Africa days, resulting in a synthesis of his ethical/spiritual beliefs on Ahimsa and Truth alongside of the massive and baffling economic problems confronting him and the country. For him, real progress was "moral progress" and, to use his somewhat startling words, "true economics stands for social justice and moral values. "His ideal of true economics which was to "manufacture souls" and not material plenitude is also expressed in his own unique langauge: "Let us seek first the Kingdom of God and His righteousness and the irrevocable promise is that everything will be added to us. These are the real economics".

But we economists should realise that even as Gandhi thought and expressed himself thus, he was adhering to one of the two streams from which economics has flowed and grown—the ethical on the one hand and the engineering on the other—, as one of the recent economic treatises reminds us. The ethical tradition as pointed out is the ancient Indian way of approaching any human problem, a tradition which includes Kautilya and Valluvar and more recently Vivekananda and Tagore in India, and Mill, Marx, and Marshall outside India. The engineering tradition is more recent and goes back to the French physiocrat, Quesnay, and our own Dadabhai Naoroji, and more recently to Leon Walras and the mathematical economists who have followed him. Gandhi belonged to the ethical tradition and affirmed his belief that economics is related to metaphysics and other human sciences with the resounding words: "I must confess that I do not draw a sharp or any distinction between economics and ethics. Ethics that hurts the moral well-being of an individual or a nation are immoral and therefore sinful. Thus the economics that permit one country to prey upon another are inmoral." Incidentally, I should say that I belong to the ethical tradition, because I am concerned with the ends as much as with the means of living.

I said earlier that I do not use the term "Gandhian economics" and what it implies doctrinally for two reasons. I have just explained the first reason. The second reason is that the laws of economics are not tied to one person or one group or one age. They are universal, or they are not laws. The application of these laws, however, varies with the time and place under consideration. The means of working and living in the first century AD were different from those that existed in the nineteenth century: the needs for existence are perceived in one way by the people of the cold North and differently by the people of the warm tropics. Again, the conditions of life and work change over time, so that the application of the economic principles, which are universal, takes on different substance and form at different times and ages. To speak of Gandhian economics is misleading because it is not economics which is Gandhian, but its application to our time and conditions as declared by Gandhi's perception. This is similar to there being no Indian economics or American economics or Communist economics, but only the general economic principles as applied to India or America or the Communist system. I would, therefore, advise that we avoid using this misleading term and instead concentrate on the economic ideas, the economic teaching resulting in action, and the economic precepts of Gandhi.

Five Facets

Just as we limited ourselves to one aspects of Gandhi—his economic precept and practice—so too when it comes to today's Indian economy, we shall limit ourselves to five issues: (a) the balance of payments problem; (b) the issue of inflation; (c) the problem of unemployment and underemployment; (d) inequalities in income and asset ownership; and (e) the underground economic and the moral basis at the back of the whole economy. It would be my endeavour to look at each of these problems which are massive as they characterise our economy today both quantitatively and qualitatively.

Balance of Payments: The balance of payments problem arises out of cumulative excess of our imports over our exports. In the forty five years of our Independence and functioning of our economy, it is only in the two years that there has been an excess of our exports over our imports. This trade deficit which has been built up cumulatively has, in part, been met by our invisible imports—mainly the remittances from our fellow countrymen and women working abroad, particularly in the Gulf countries, the concessional loans made to us by foreign countries and some profits that our companies abroad earned. The other part has been met by our international commercial borrowing. Now, in the past two years, these invisibles have declined sizeably and our credit in the international commercial market is near zero, so that we are not able to borrow intensely abroad: this means that the only means of paying for our imports and the interest and capital repayments of our foreign debts (which exceed $ 80 billion or Rs. 1 lakh crore today) is our exports and our heavy borrowing from the two international financal institutions, the International Monetary Fund (IMF) and the World Bank. Take the $6.6 billion of loans subscribed this year by the Aid India Consortium which comprises 12 countries and the World Bank. The loans offered by the foreign governments which amount to $3 billion have to be used to buy machinery and raw materials from the lending country. As for the other $3 billion subscribed by the World Bank and the $ 5 to 7 billion on long term credit being negotiated by us with the International Monetary Fund, the five conditions under which these loans are being offered and quite clearly and openly explained by the Managing Director of the Fund during his visit to India in August last are: (i) government expenditure to be reduced so that the government's deficit is cut from the current 8.7 per cent of GDP (the National Income) to 4 per cent, which involves deep cuts in subsidies which will hurt the poor and reduced defence outlay; (ii) trade reforms to be intensified, removing all non-tariff barriers on imports into the country; (iii) tax reform involving reducing customs duties and raising excise duties which will raise prices and hit the poor and lower middle classes; (iv) industrial policy reform involving introducing an "exit policy" under which all sick public and private companies will be closed which will increase unemployment and transfer all production increasingly to the private corporate companies; and (v) reducing prices of infrastructure while increasing rail and airfares, crude oil prices, coal prices etc. which will further feed inflation and affect the poor. On top, even these large IMF loans give only temporary relief because they have to be repaid within five to ten years (this is called long-term credit) from our export earnings.

One means that we have devised for obtaining some relief from our exports not increasing has been to invite direct foreign investment, for which we have given foreign companies the right to invest up to 51 per cent in Indian companies and in some cases even up to 100 per cent. The latest government report is that, as a result so far only $ 85 million foreign investment has come in (compared to $ 2 billion in China and $ 1.5 billion in Indonesia). The Foreign Investment Promotion Board just set up by the government as a clearing agency for multinational investment, has not had much business and so has taken the initiative to invite three US giants—Coca cola, General Electric and General Motors—to submit concrete proposals to the Board. Against this bind that we have got ourselves into in regard to our import-export trade and particularly the problem of paying for our imports which is one manifestation of our consuming more than we are producing, that we are spending more than we are earning. Let us turn to Gandhi's ideas on foreign trade as expounded by him in relation to Swadeshi and khadi when he said that "the centre of Swadeshi lay in Khadi" and that Swadeshi is "that spirit in us which restricts us to the use and service of our immediate surroundings to the exclusion of the more remote." For Gandhi, the spinning-wheel was not only the key to swaraj but, among its nine other objectives, it would check the erosion of our wealth to foreign countries, and he expressed this thought vividly in saying that the spinning-wheel was deployed both for promoting the spirit of Swadeshi and carrying out the boycott of foreign cloth, describing these two uses as the benign and terrible aspects of the spinning-wheel. J.C. Kumarappa carried this doctrine forward and said that the commodities produced within a community should be for domestic consumption and only its surplus should be exported. Some communities may have some residue after satisfying their domestic requirements. This he calls "natural surplus" which excludes trading abroad in goods needed by the people of the country. It is not possible today to go back to the system expounded by Gandhi and elaborated by Kumarappa. But the export of vegetables and fruits badly needed by the poor people (vegetarians) of South India to the Gulf countries, the export of rice to those countries, at a time when the majority go to bed every night hungry, the government's decision to set apart a percentage of the production—say 30 per cent in the case of tea—for exports, all these should be examined in the light of what we have learnt from Gandhi. For me, the core in his view on external trade is that we—all of us, government, parliament, business houses and people, particularly economists—need to face the basic question as to what is the purpose of our exports. We go on pushing ourselves and our people to export more and more on the plea that we are now part of a "globalised" trading world. We need to ask what is the purpose of exports. For me, the answer is that we must export enough (i) to pay the interest and part of the principal on our debts (which today amount to $ 80 billion); and (ii) to pay for absolutely essential imports (particularly those for our infrastructure) which should exclude exports of all consumption goods which should be produced within the country. All that we are doing to reduce unnecessary imports—unnecessary in the sense that they are used to produce non-necessaries and luxury goods—should continue and be intensified but the main question that we must face is what is the purpose of exports. For, the answer to that question indicates that using the above two criteria, our present level of exports is adequate and can even be reduced in terms of the necessities like rice, vegetables, and increasing tea packages.

Inflation

Currently we measure the rate of inflation by the wholesale price index, which till three years ago was around five per cent per annum and is now fifteen per cent per annum, and despite whatever the government forecasts, is likely to remain at that level, because the seasonal downswing ended last month, December 1991, and despite a good monsoon this year continuing the good record for the past two years, prices will remain at the high current level. For the poor man (and let us not forget that when we talk about the poor man, we are talking about 60-70 per cent of our people), for the man in the street, and for the housewife who does the daily shopping, it is not the exotic wholesale price index which guides his/her daily life and shopping. It is the retail prices, where the index shows double of what the wholesale price index shows and so is at 30 per cent. As noted, we have had a good monsoon and a bumper harvest for the last two years (which for this year is expected at the same level of 175 million tonnes of foodgrains as that of last year) and the buffer stock of wheat and rice has already passed 20 million tonnes. Despite this, the prices of rice and wheat are rising and are being kept down in the public distribution system (which does not reach the really needy rural poor) through heavy government subsidy which, as noted earlier, the international financial institutions want to see reduced. The price rise on rice and wheat is also a consequence of their export to the Gulf countries, as noted earlier. Further, the government has got the Reserve Bank to follow a tight money policy to the point where the medium, small and tiny entrepreneur is not able to keep up his production and is forced to lay off part of his work force. Interest rates have been hiked which makes such borrowing as is permitted very costly for the small farmer and the industrial producer. The one area which needs attention and early action is government expenditure, particularly what is called non-development expenditure which includes the salary of the government staff (union, states and local bodies which increased last year by 1100 persons and Rs 3000 crore, the defence outlay where the increase last year was by Rs 3000 crore, subsidies on fertilisers and exports). Turning to Gandhi's ideas on prices, we find that they are related to his doctrine of small-scale and village industries and his approach was formulated as a solgan "to render unto villages what was due to them." In particular, his doctrine of village self-sufficiency brings the process of production and consumption together and reduces the importance of the price mechanism. This village self-sufficiency holds the key to the prosperity of both the soil and the inhabitants living on it. Healthy nourishing food is the Alpha and Omega of the rural economy. The bulk of a peasant's family budget goes to feed himself and his family. All other things come afterwards. Let the tiller of the soil be fed well. Let him have a sufficiency of fresh, pure

(Contd. on page 12)

Annie Besant—Forgotten Heroine Of The Freedom Struggle

K.G. Joglekar

A hundred years ago in 1893, a fiery Irish woman, a loyal subject of the British Crown, came to India. For the next 60 years she visited Europe, America and Australia but always returned to India which she considered her home. During this period she rendered valuable services to India in the fields of education, social reform and politics. When she died in 1933, Mahatma Gandhi had said "So long as India lives, the memory of the magnificent services rendered by Dr Besant will also live. She had endeared herself to India by making it the country of her adoption and dedicating her all to her."

It was a period of great turmoil in India. The nation was trying to find its soul and to free herself from British servitude. Giants strode the political and social scene. Ranade, Pheroze Shah Mehta, Surendra Nath Bannerji, Bipin Chandra Pal, Lala Lajpat Rai, Gopal Krishna Gokhale, Lokmanya Bal Gangadhar Tilak, Aurobindo Ghose, Madan Mohan Malaviya, Motilal Nehru, Chitta Ranjan Das, Mohammad Ali Jinnah, C.P. Ramaswamy Ayar and above all the father figure of Indian nationalism—Dada Bhai Naoroji were all active in the political scene. Gandhiji and Jawaharlal Nehru came later. It was difficult for anyone, particularly a white woman to be acknowledged as a leader in her own right, whose counsel was often sought by prominent leaders, who was asked to move important resolutions at the annual sessions of the Congress and who was asked to lead delegations to England to plead the cause of India. That she dressed like an Indian lady, performed *Pooja,* and ate according to Hindu rules, made things both easy and difficult for her. The women of India, just coming out of their seclusion, were thrilled to see a woman addressing large gatherings of men who listened to her. But the fact that she called herself a Hindu of the ancient and Aryan type, aroused the suspicion of the orthodox elements. For a long time the doubt persisted was she sincere or was she a plant? The British Government was suspicious of a white woman trying to arouse among the Indian people a feeling of self-respect and pride in their cultural heritage. Sir Valentine Chorol in his book 'Indian Unrest' acknowledged Dr Besant's role in spreading the message of Indian nationalism.

Two interesting incidents bring about the extent of the time-scale of her activities. On her first visit to Benares (now Varanasi), she met a four-year-old boy. Sri Prakasa who took a leading part in the freedom struggle, was a member of the Central Legislative Assembly and after India became free was High Commissioner to Pakistan, a Central Minister and later Governor of Assam, Madras and Bombay. On her visit to Allahabad, she initiated thirteen year old Jawaharlal Nehru into Theosophy.

When Dr. Besant landed in India she had decided to work in the fields of education, spiritualism, and social reform and not to take part in politics. She founded the Central Hindu School and College which later became the nucleus of the Benares Hindu University. It was her dream to have a chain of such schools and colleges with an apex University. She translated the Gita into English. 'The Lotus Song' as she called her translation was very popular. She worked for reforms in University education, fought for the rights of women, revival of the Panchayats and equality for the untouchables. She also wanted to do away with middlemen and said the consumer should deal directly with labour without the interference of the contractor.

Dr Besant stuck to her decision to stay away from politics for full two decades. Why did she decide to plunge into politics in 1913? According to her, Rishi Agastya had commanded her 'to form a small band of devoted people who were brave enough to defy wrong social customs like premature marriage.' Not many now or then were prepared to accept this and the famous revolutionary Pandit Shyamji Krishna Verma scoffed at it by saying that 'she was under constant spell of self-hypnotism'. A more rational explanation would be that she, like many others found that education and social reform had little relevance so long as Britain continued to occupy India.

Indian politics was at the cross-roads in 1913. The British Government was gloating over the split in the Congress, at the annual session in Surat in 1907. The 'extremists' had been thrown out of the Congress and their leaders like Tilak were in jail. The 'moderates' who had taken control of the Congress had reduced it to the status of a debating society without any plan of action except supplicating the Government. The British Government on its part contented itself with making vague promises of things to come after the war was over. The first essential thing Mrs. Besant realised was unity in the ranks of the Indian people. Though she had little sympathy with the 'extremists', she realised that their presence in the Congress was essential.

Her efforts failed for a time because of the antipathy of Pheroze Shah Mehta and Gokhale towards the 'extremists'. Their death in 1915 left the 'moderates' without a leader and Tilak and his followers returned to the Congress at the annual session held in Lucknow in 1916. Mrs Besant moved the resolution at this session on political reforms in India. She ridiculed those who said that the demand for political reforms in India should not be raised till the war was over. She said: We are only following the example of the self-governing dominions and are only taking the advice of Mr Bonar Law, the late Colonial Secretary, who advised the Dominions to strike the iron while it was red hot.....The iron is red hot, but after the reconstruction of the Empire the iron will be cold and where, I ask, is the blacksmith who allows the red hot iron to cool down before he tries to strike it to the shape and form he wants?

Mrs. Besant moved the argument that being a coloured people, Indians were not fit for self-government and the destiny of the coloured people was to submit to white rule. She observed, "That is not the doctrine that the coloured nation is prepared to accept. Has God given liberty alone to the pale faces and not to the coloured people of the globe? It is not colour that counts. It is a clever brain and a strong heart and not the colour of the skin that covers them. The Lord Buddha, the Lord Mahomed and the Lord Christ were coloured people. All the founders of religions were coloured men. Have the colourless produced a single founder of religion.?"

She rejected the suggestion that India should wait for the end of the war for raising her demand for self-government in these words: "It is only Home Rule that will enable us to defend ourselves...England is fighting for her life and has called India to help her with as much as India is able to give. Oh! India would have given so much more, so many more men, so many more volunteers in order to help England in the hour of her need but England at her peril calls the Indian soldiers to fight for the liberty of Belgium and the sacredness of the treaties and thousands of these soldiers back here find their people still in bondage and treaties disregarded, torn to pieces and thrown aside. That which England fights for in Europe, she must admit here."

But the war in Europe was now coming to a close and England was confident of winning it. Cooperation of the Indian people was no longer sought. The Government took recourse to repression. Many nationalist leaders were prosecuted and jailed. Mrs Besant was interned and security was demanded from her paper *New India*. Hers was a voice of moderation and for adopting constitutional methods and her incarcination angered the people. She was elected President of the Congress session held in Calcutta in 1917. In her presidential address she made particular mention of the loss of belief in the superiority of the White races; awakening of women to claim their ancient position and awakening of the masses. Concluding, she observed "After a history of a millenium, stretching far back out of the ken of mortal eyes; having lived but not died with the mighty civilisations of the past; having seen them rise, flourish and decay, until only their sepulchres remain deep buried in the earth's crust; having fought and triumphed and having survived all changes, unbroken, India, who has virtually been the Crucified among nations, now stands on her resurrection morning—the immortal, the glorious, the ever young; and India shall soon be seen, proud and self-reliant, strong and free, the radiant splendour of Asia and the light of blessing of the world!

Her speech reminds one of Jawaharlal Nehru's famous 'Tryst with Destiny' speech delivered on the night of Independence 30 years later. But the British Government had now no need and therefore, no reason to heed India's demand for change in her status. The Home Rule Leagues started by Mrs Besant and Lokmanya Tilak were proving a headache for the Government as was the disillusionment of the soldiers demobbed after the conclusion of the war. Repression was let loose to stifle the demand for political reforms. The massacre at Jallianwallah Bagh shocked people everywhere.

Mrs. Besant moved the resolution on the Jallianwallah Bagh massacre, the most important resolution passed at the Congress session held in Amritsar in 1919-20. She was scathing in her condemnation of the officers responsible for the massacre. She said, "We indict these officials on their own words spoken with a shamelessness that they did not realise apparently the criminality of what had happened, but spoke it out in public as though nothing had been done...where wrong has been committed against the helpless and defenceless, where force has been used against unresisting and harmless crowds, where, the massacre only stopped when the ammunition was exhausted, when in a closed space, from where none could escape, the General Commanding directed the fire on the outlets of the closed space, until they were choked with the bodies of the dead and the dying, then it is not a private wrong to be forgiven, but it is a public wrong to be punished.

But events were soon to overtake her. While Mahatma Gandhi found the Montagu—Chelmsford reforms inadequate and unsatisfactory Mrs Besant felt that they opened the gateway to the freedom of India and advantage should be taken of them. Her amendment to the main political resolution was defeated at the Amritsar session. The writing was there on the wall for everyone to see. Indian politics had entered a new era. Mahamta Gandhi captured the Congress at its annual session in 1920 in Nagpur with the slogan of non-cooperation. Mrs Besant said non-cooperation and boycot of foreign goods will either fizzle out or lead to a very terrible impasse from which liberation will only come after cruel sufferings"

But the changed mood in the country made leaders like her irrelevant. She stayed away from the Nagpur session and instead attended the Convention of the Liberal Party held in Madras. She spent the last 13 years of her life in comparative seclusion, watching the political scene but taking no active part in politics. Hers was a meteoric rise in Indian politics. Within a few years of her entry she became a leading light of the freedom struggle and rose to be the President of the Congress. But her fall was equally meteoric. Events took their inexhorable course when her ideas had ceased to be relevant for the people. But sixty years after her death one can only marvel at the love she had for the people of India and the courage with which she fought for the emancipation of the Indian people in various spheres.

The author is a noted journalist.

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milk, ghee, and oil, and fish, eggs, and meat if he is a non-vegetarian. What could fine clothes, for instance, avail him, if he is ill-nourished and underfed? The question of the supply of drinking water and other things comes next. In such a scheme of self-contained communities, aggregate expenditure would be equal to the aggregate income and there would be no leakages and no question of overpricing or underpricing. The basic core in this view of Gandhi concerning our problem of inflation is that we have to start with the need to limit our demand and marketing to what is necessary for our living. Until there is some limitation of wants, there can be no break in the price spiral. All the other measures that we have taken, such as decreasing the supply of money, increasing its cost for the large industries, the promotion of small, tiny industry which is dealt in the next section, and the agreement on cutting government expenditure sharply need to be built into our examining our way of life and limiting our wants to what is necessary for our living. Without that basic foundation, all other remedies will involve further hardships, particularly on the poor consumer and tiny producer and farmer and will not really arrest inflation and reverse it. □

(To be concluded in next issue)

An Engineering Marvel

Biman Basu

AFTER dominating the Hooghly river skyline as a symbol of Calcutta for almost five decades the famous Howrah Bridge (Rabindra Setu) now has a rival. The second Hooghly bridge, or Vidyasagar Setu as it has been christened, today stands as the new landmark of Calcutta and a majestic symbol of modern India. It is a tribute to the skill and perseverance of a team of young engineers who took up the challenge, and succeeded in the face of several odds. Vidyasagar Setu has a rare distinction—it is the longest 'cable-stayed' bridge in Asia. Built at a cost of Rs 388 crore, it has an eight-lane carriage way which will allow 85,000 vehicles to cross the river every day, relieving much of the pressure from the old bridge.

The pressing need for a second bridge over the Hooghly connecting Calcutta to Howrah was being felt for quite some time as the old Howrah Bridge, built during the Second World War, was totally inadequate to handle the fast increasing flow of vehicular traffic across the river. When the second bridge was conceived in 1970 it was decided to locate it south of the old bridge, downstream of the Calcutta port area. This necessitated a design that would allow a clear passage for ocean going ships below the main deck. That required a corridor 152m wide and 35m high under the bridge, which therefore had to be a high-level single-span bridge. The choice, then, was between a cable-suspension bridge and a cable-stayed bridge. The cable-stayed design was finally selected as it was more economical than suspension type upto a span of 500 metres (the new bridge has a main span of 457.2m). Besides, the Calcutta soil was also suitable for this type of a bridge.

Many people think that Vidyasagar Setu is a cable suspension bridge, like the famous Golden Gate bridge of San Francisco, USA. But they are wrong, because although cables are used to support the deck structures in both, the actual geometry and consequently the interplay of forces are totally different in the two.

A suspension bridge consists of two cables strung over two towers at the two ends, and the bridge deck is suspended from these cables by vertical 'hangers'. The cables are secured at both ends to firm 'anchorages' that take the entire load. In a suspension bridge the load pulls the cable anchorages at either ends of the bridge inwards.

With a cable-stayed bridge it is different. Here there are no hangers, but the deck is supported by cables connected directly from the deck of the pylons or towers. The load of a cable-stayed bridge presses down on the pylons and piers that support them. There is no overall inward or outward pull because the cables pull against the bridge deck itself and the forces balance out.

The contract for the Second Hooghly bridge (as it was originally known) was awarded in 1972 to a consortium of companies of which Braithwaite, Burn and Jessop (BBJ) was a constituent. The original design supplied by a British Firm envisaged a cable-stayed bridge with a deck of box sections. Unfortunately, even before take off, the project ran into trouble. Two bridges of similar design—the Milford Haven bridge in U.K. and Yarra bridge in Australia—collapsed during construction. Naturally there was a lot of hue and cry and doubts were expressed about the safety of the design. However, a detailed analysis of the accidents by a high-power committee ruled out any design flaw; the mishaps were blamed to faulty construction techniques. Nevertheless, the design of the Second Hooghly bridge was drastically changed. Instead of a box-section it was to have a composite deck with two main girders and one middle girder, connected by cross girders, and suspended from four pylons by cables. The number of piers were reduced from the original six to four.

The structural safety of the bridge, which is designed to carry upto 85,000 vehicles per day, was ensured by wind tunnel studies of the aerodynamic effects of wind on the bridge deck and pylons. The tests were conducted using models of the bridge at the Indian Institute of Science, Bangalore, National Physical Laboratory, London and also in Stuttgart, Germany. During these tests no significant oscillations of the deck were observed.

When the work on the bridge was finally taken up in 1985, the challenge before the construction team—a group of young engineers, most of them fresh graduates, with a couple of experienced hands—was real. No one in the group had any experience in building a cable-stayed bridge which was a relatively new concept in bridge building.

On the Calcutta side erection work started in November 1985, with the setting up of the infrastructure facilities. At the Howrah end it started almost a year later. To bring the pylon sections to the site, the builders made extensive use of the riverway using heavy barges. From early 1988 the work gathered momentum but only to face yet another setback. In January 1989, the massive pylon crane used for erection of the pylon on the Howrah side collapsed damaging sections of the already erected portion. Although no life was lost, it put the clock back by at least a year.

After the pylons were ready came the trickiest and most risky part of the job—the erection of the main deck. The most critical factor during this stage was the deflection of the pylons. In a cable-stayed bridge the entire vertical load of the deck is carried by the two pylons. So any imbalance in the load supported by cables on two sides of a pylon can deflect it to dangerous extent jeopardizing its stability. The maximum allowable deflection in this case was not more than 350mm from the vertical. For a 122-m tall pylon that is really a tall order. But the BBJ team managed to keep the deflection within safe limits as the main deck was strung by cables section by section. The engineers estimated the deflection at every stage of construction by computer simulation using their own software, and then checked it at every stage to keep the figure within the design parameters. In fact, the computer was used extensively by the engineers during construction, especially during construction of the central main span which was built up from ends to be joined at the middle.

Novel Method

The final joining of the main span at the middle was completed in the early hours of 26th August 1992. The engineers used a novel method to bring the two ends in alignment before joining. It was discovered that the Howrah side of the span was slightly higher than the Calcutta side. To bring it down to a matching level, two 10-tonne loaded trucks were driven on to the raised section which did the trick.

Hailed as an engineering marvel, Vidyasagar Setu has cables as its mainstay. The cables used to suspend the main deck of the bridge are also of special type. Unlike the twisted wire cables normally used in cable suspension bridge, the Second Hooghly bridge deck is supported by 152 special parallel-wire cables. Parallel-strand cables have certain advantages over twisted ones in terms of weight saving and corrosion protection. If, for instance, twisted cables were used for this bridge the weight of the cables would have been 2500 tonnes rather than the 1400 tonnes now. Each cable is made up of varying numbers parallel strands of 7-mm high-tensile steel wires enclosed in a high-density polyethylene (HDPE) sheath and grouted with a mixture of polyurethane and polybutadiene. Each cable, with diameter varying from 140mm of 200mm, was custom made to the required size complete with the HDPE sheath and anchoring sockets at both ends by a firm at Ranchi and brought to the site by road. The grouting was done at site after straightening out the cables. In adition to the 152 main cables that support the main deck, the bridge also has 16 "holding down" cables under piers 1 and 4, the first time such cables have been used anywhere in the world.

Unfortunately, even a year after its imagination the full potential of this unique engineering marvel is yet to be realized for want of infrastructure in the form of approach and service roads at the Howrah end. Disputes over land acquisition and eviction of squatters are still said to be holding up work. The result is that hardly a few hundred vehicles use the bridge daily. This not only means loss of revenue by way of toll tax collections but also continued hardship for thousands who have to commute across the river daily. Only when the bridge becomes fully functional will the long cherished dream of Calcuttans to have a second bridge across Hooghly have come true. □

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Rural Housing Schemes Some Observations

Rajiv Sharma

HOUSING has been primarily identified as selfhelp activity but in the changing scenario with high land and construction cost necessitated State intervention initially as a welfare activity and now as a social and economic imperative. Another reason for taking housing as a priority sector is to provide service to the housing stock which is deteriorating at an alarming rate.

Almost one-fourth of India's population live in rural areas. However, housing backlog in this sector is estimated to be 20.6 million. In rural areas, housing stock grew from 65.2 million in 1961 to 74.5 million in 1971 and 88.7 million in 1981. The earlier projections of National Buildings Organisation (NBO) put the 1991 housing stock of rural area at 106.2 million.

Social housing programmes in urban areas and rural housing programme for landless labourers and artisans under the Minimum Needs Programme (MNP) formed the thrust of the Seventh Plan. Simultaneously, institutional finance for housing and promotion of building material technology were also given priority in the same plan However the plan outlay, including Indira Awas Yojana, worked out to be only 1.3 per cent and even within the social service sector, housing accounted for 1.63 per cent of the plan outlay.

Some of the rural housing schemes are discussed below:

a) Minimum Needs Programme

Initiated in 1971, the scheme included allotment of house sites and construction assistance to rural landless workers and artisans including SC/STs. The scheme was earlier part of central sector scheme and was later transferred to the state sector in 1974. As many as 4.32 million housing sites, as against the target of 2.9 million were allotted and construction assistance provided to 2.25 million families. During 1990-91 and 1991-92 the outlay provided was Rs. 129.65 crore and Rs. 128.91 crore respectively.

b) Indira Awas Yojana

The Ministry of Rural Development is operating this fully subsidised rural housing scheme as a part of rural employment programme for providing houses to the SC/STs and freed bonded labour. It now forms a part of Jawahar Rozgar Yojana (JRY). The objective of this scheme is to develop a viable micro-habitat, provide housing and ensure a base for higher level of earning for the beneficiaries. A sum of Rs. 12,700 per unit for plain areas and Rs. 14,500 per unit for difficult hill areas is given as grant under this scheme to the State Governments for housing, sanitation and infrastructure. During the Seventh Plan, 6.87 lakh dwelling units were constructed at an estimated expenditure of Rs. 699.58 crore and for the year 1990-91 the target achieved was 1.71 lakh, at an anticipated expenditure of Rs. 187.96 crore.

c) Other Schemes

i) One Lakh Housing Scheme: (OLHS)

One of the most important efforts in serving the rural poor has been the "One Lakh Housing Scheme (OLHS)" which was implemented during 1972-76. This scheme was essentially to support the Central scheme of provision of house sites to landless workers in rural areas launched in 1972. Developed house plots were to be given free to eligible beneficiaries through grants from the Central government. However, additionally, the state government "decided to give a house practically free of cost". Each family had to pay only Rs. 100 towards a house built at a cost of between Rs. 1,250-1500. The main effort by the state government was to turn this opportunity into a popular mass movement to boost the Central scheme. Besides the governmental grants, efforts were made to mobilise resources from public at large through donations also. Out of this massive effort, about 60,000 houses were completed over a period of about 5 years, averaging about 12,000 units per annum.

ii) Subsidised Aided Self-Help Housing Scheme:

This scheme was based on the feedback of a few schemes implemented earlier by reputed voluntary agencies. These reults led to the introduction of a totally new and path-breaking scheme popularly referred to as SASH, towards the end of 1983. The innovative features of SASH include:

— Rather than a standard type design followed in OLHS, "Seventeen designs of various plinth areas were selected based on minimum cost, maximum efficiancy and use of improved building materials and better construction techniques", though a material level competition, exhibition and seminar on low cost housing.

- Programme for masons and semi-skilled labourers to be trained in new construction techniques and cost-saving.
- Unlike OLHS, the share of subsidy in a total cost of Rs. 6,000 was reduced to one-third with one-sixth being the contribution of the beneficiary and a half as loan from HUDCO.
- Most important innovation was the use of over 1200 voluntary agencies in the process of beneficiary selection, resource mobilization, loan disbursements and supervision of house construction. This helped to inculcate user participation in the entire process, which would help to eliminate a sense of alienation common in a government given house.
- Starting of Nirmithi Kendras to both manufacture low cost building materials and disseminate information and run training programmes to support SASH.

At institutional level Housing and Urban Development Corporation (HUDCO) has been financing several rural housing schemes by earmarking 15 per cent of its resource allocation to such schemes. Till June 30, 1991, 2.15 million houses entailing a project cost of Rs. 1247.80 crore was sanctioned under such schemes. The loan releases worked out to Rs. 503.17 crore. About 1.6 million units were completed which accounted for 46 per cent of the total units funded by HUDCO. In addition, HUDCO is also financing other shelter options like village Abadi Improvement and Building Materials.

Major Issues

The above mentioned housing schemes are among a series-one after another-implemented by the public sector and then given up. It is important to note here that it was in the SASH scheme that Kerala government has really made an effort to bridge the gap between community and bureaucracy. This scheme incorporated the concept of 'learning by doing' into their planning process. Thus the partnership between community-voluntary agencies-government becomes a prerequisite in all these schemes. Hence, any housing scheme should have the following components:

- The need to evolve different type of designs to suit local conditions.
- The need to involve the beneficiaries in the entire process of house provision to reap the benefits of self supervision and developing a sense of identification and pride in the house rather than an alienation.
- The need to gear up the construction sector "to cope with the increased demand due to augmentation of construction activities and also adoption of new construction techniques and improved building materials.

Two issues that clearly emerge from this discussion are, first, involving community/voluntary agencies in similar schemes and second, dissemination of appropriate technology.

The housing policy in India has undergone some major changes in the last four decades. Some of them have been a shift from slum removal and relocation programmes to slum improvement approach and a complete change envisaged in the outlook of public sector housing agencies from direct construction and provision of housing to a more supportive and facilitator's role. This certainly means a dynamic role of beneficiaries and non-government agencies since rural housing scheme (RHS) aims at social welfare rather than profit making. Voluntary agencies can ensure improved service delivery as they have "necessary flexibility, openness, faith, commitment, and motivational capacity to go through the rather time consuming participatory housing process patiently and efficiently to the happiness and satisfaction of poor people".

Voluntary agencies can play a supportive role in RHS and so the partnership between government and voluntary agencies should be carefully designed. The basic issue is to identify suitable methods for channelizing the energies of the two sectors, government and voluntary, in a combined manner. The possible areas of their involvement could be:

- Identifying and supporting the real needy
- Participation in appropriate technology design, procurement of building materials, training of masons.
- Involvement of beneficiaries in the programme through self-help construction and supervision.
- Mobilisation of local resources especially beneficiaries contributions.
- Cost recovery in case of loans etc.

Experience has clearly marked out voluntary agencies. These can go much beyond awareness creation or to organise people to help themselves. It is also recognised that many of the innovative and important ideas in different development fields in post Independent India has emerged from the voluntary agencies.

As mentioned in table 1, private investment in housing sector is much higher than public. Hence, voluntary agencies may prove to be a reliable mechanism to tap this resource. Their popularity could be easily built once they advocate public interest and their organisational structure gives them sufficient freedom to do so.

Building Centres

Efforts to effect savings in

construction cost through promotion of low cost and innovative building materials and technology are important as building materials account for a major part of cost of construction. Thus there is a need to tie up RHS with building centres so as to promote low cost housing and locally available material/appropriate material and technology. Similarly, buildings centres could also act as a platform of skill upgradation and dissemination of appropriate technology through training of masons. The role of building centres may be:

i) Setting up building material and technology promotion exposion to provide appropriate platform for technology transfer and application in the shelter sector;
ii) Promotion of commercial production of innovative building materials with local resources and wastes;
iii) Developing appropriate housing design to suit different geo-physical conditions and population needs of different categories.
iv) Increasing involvement of voluntary agencies in supplementing government's effort in this sector.

Building centres may therefore act as a chain to disseminate not only relevant technology but also bring confidence among the residents since they promote use of local materials. The need and credibility of building centres is evident from the fact that in all 213 building centres have been established in the country of which 77 are fully operational. However, very few of them are working in rural areas.

Rural needs are different from urban in the sense that people in rural areas need large space for storage of grains, straw, fodder besides working space for other commercial activities like beedi making, carpet weaving, pottery, coir weaving etc. Thus housing design will vary not only from one part of the country to another but also from one target group to another. It is therefore important the building centres should give a choice of housing design to population concerned.

Other Issues

i) Provision of Services Sites

Provision of house sites to the landless rural labour and artisans has been continuing since 1972-73. However, the scheme is not very successful mainly because, first, many of these sites are far away from the village core and second, they were also devoid of provision of basic amenities like water supply and sanitation. Certain norms should be developed as thumb rule for development of clusters.

One such approach is tried by the HUDCO which envisaged village improvement in *Village Abadi Improvement scheme*. This programme is a package dealing with not only improving rural housing problem but the supporting infrastructure as well.

(Contd. on page 21)

Table 1

Public and Private Investment in Housing

Plan Period	Investment in Housing: Public	Private	Total	%age of Housing Inv. to total Inv. in economy
1	2	3	4	5
1st	250	900	1150	34
2nd	300	1000	1300	19
3rd	425	1125	1550	15
4th	625	2175	2800	12
5th	796	3640	4436	9.3
6th	1491	18000	19491	12.5
7th	2458	29000	31458	9

Source: Prominent facts of Housing in India NBO & UN Regional Housing Centre for ESCAP, 1990.

Table 2

Upgradation Targets for Rural and Urban Panchayat Areas: Gujarat

		Annual targets during 1990-2000	Total for 1990-95
1.	Houses with roof materials as grass, leaves, reeds, thatch etc. and durable wall materials.	25,023	125,115
2.	Houses with roof materials as grass, leaves, reeds, thatch etc. and wall material as grass leaves, reeds or Bamboo.	33,597	167,985
3.	Toilets in Urban Panchayats	22,931	114,655
4.	Home extensions based on the family family size and house size	53,483	267,415

Source: Mehta Dinesh and Mehta Meera (1990), "Housing Strategies for the Eighth Plan: A Perspective for Gujarat State", Report for Panchayat and Rural Housing Department, Gujarat.

Women And Forest Management

Rohini Vijh

HARYANA has witnessed rapid deforestation during the past few decades. The recorded forest area in Haryana is 1685 sq. km. which is 3.3% of the total geographical area of the State. The resulting scarcity of forest products due to the increased human and bovine population has not only caused inconvenience and hardship for the women, but also social, economic and cultural disruptions. The government is trying to take control over the situation by undertaking various social forestry activities in a big way under the various agro-climatic zones vis-a-vis the Shiwalik hills, Indo-Gangetic plains, Sandy plains, and Aravallis. But it has been seen that this has not really helped to increase the area under the forest cover in Haryana.

In Haryana, the Shiwaliks covering approximately 68,000 hectares of land spreads along the Northern border of the State. Many communities have settled at the base of the Shiwaliks hills. In the past villagers largely depended upon rainfed agriculture and livestock for their subsistence. Due to increase in the human and bovine population, the pressure has increased on the village and demarcated forests. This has led to degradation of large tracts of land, erosion of the watershed, with corresponding sedimentation of the lakes, reservoirs and irrigation facilities.

Special efforts are required to find solution to the problems faced by the rural people especially women due to the degradation of this vast forest resource on which they are highly dependent. It is very essential to pool in the resources from various agencies working in the rural sector and having an integrated approach by all the government departments implementing various developmental programmes in these villages, which would be helpful in not only finding an effective and long standing solution to the hardships faced by them in their day to day lives but also in making some headway in the uplift of the rural women. This objective has been met to some extent in the state of Haryana as a result of the Joint Forest Management Programme being implemented by the Haryana Forest Department (HFD), but still a lot needs to be done in this direction, so as to find means to reduce the dependence of the rural women on forest products which are their only means of subsistence and which can be done to some extent by providing alternatives from sectors other than forestry.

Under the Joint Forest Management Programme, 38 Hill Resource Management Societies (HRMS) have been formed till date in six ranges—Pinjore, Morni, Raipur Rani, Naraingarh in Morni-Pinjore Forest Division, Kalesar and Chhachharauli in Ambala Forest Division. It has been seen that in the beginning it was not difficult for the various villagers to be induced into undertaking active protection of the forests but what is essential is to sustain these initiatives over time and their evolution into an alternative forest management regime.

This paper emphasizes the role of women as active users and managers of forest and the resources and how they have been affected by the various issues coming up because of Joint Forest Management Programme being implemented in their villages.

Environment Policy

It is important to have a policy on environment both at the State and Central level, which is conducive in involving village communities as partners in the management and protection of forests. In a group meeting held in some of the villages, it was requested by the men and women in the village that as they had significantly contributed towards the protection of the forests, they should be given their due share of timber especially Khair (*Acacia catechu*) being produced from the forest area and jointly managed by the people and the Forest Department (FD). The people before implementation of the JFMP were meeting their bonafide requirements of small timber and fuelwood from the forests and no special rights or legal right have been given to villagers over the forests being protected by them. This produces an uncertainity about the future as well as doubts about the government's intentions in the minds of the villagers. In the case of the *bhabbar* and fodder grasses, the lease price is worked out by finding an average of the lease amount obtained from the area in the previous three years not taking into consideration the actual yield from the area. Sometimes due to certain unforseeable circumstances, the yield goes down and the lease price is found to be quite high comparatively and the HRMS is not able to take the area on lease. The new rules pending approval by the Government of Haryana stipulate the finding of a Baseline Yield equal to the yield of the area prior to this coming under JFMP. Any increase in yield over the Baseline Yield is to be shared between the people and the HFD in a ratio of 3:1. However, for a yield equal to or less than this Baseline Yield, the HRMS would be required to pay royalty on a per quintal basis. The new rules also do have a provision for sharing of forest produce from the areas being jointly managed by the people and the Forest Department.

Legal Problems

The forests surrounding the villages have been divided into the demcarcated protected (DP) forests and the reserved forest areas. The villagers have the right to remove small timber, fodder grass and *bhabbar* grass but all such rights are not applicable in the reserved forests. In some areas in the Shiwaliks it has been seen that a particular DP area is being shared by 2-3 villages and in such cases it gets very difficult for the villagers in one village to keep control over grazing, removal of timber etc. by the other villages. This problem can be seen in one DP area being shared by the four villages of Jattanmajri, Khera, Basola and Prempura. The village women of Khera and Basola were facing a lot of difficulties in getting fodder grass and small timber as according to them the whole area has been heavily grazed by the villagers of Prempura. Not only that, one man from Prempura has leased the DP area for fodder grass taken from the Forest Department, and he was allowing only the villagers of Prempura to cut fodder grass at concessional rates while other villages were facing extreme fodder grass problem and have to resort to buying grass from the market etc. Hence it can be seen that one village is encroaching upon the rights of the other villages. One way of resolving such a problem can be by allocating different parts of the DP area to different villages but this aspect has to be still looked into.

Inter-village Conflicts

The protection of a particular forest area by more than one community will result in each community or village trying to establish its control over the forest and trying to exclude the others from using it. This situation is being faced by the four villages of Jattanmajri, Khera, Basola and Prempura or as another case of conflict between Masoompur and Raina for the same forest area.

But it is the village women who are most affected by such situation as in a household they are the ones who have to provide for the fuelwood and fodder etc. and in most cases they have to travel longer distances into the forest to fulfill their requirements of fodder and fuelwood or revert to external sources to fulfill their requirements.

Most of the villages in the Shiwalik do not have homogenous communities but have glaring class and caste differences. As a part of JFM Programme various sections of the society and interest groups tend to come together so that a situation of 'gain' arises for all involved, even if the relative gains might not be the same. Under the JFMP, the FD provides various incentives to the people in the form of water from the dam as irrigation to the agricultural fields for increase in agricultural productivity and fodder grass resulting in an overall improvement in the economic status of the people. Women in the village are most affected by such a situation as they are the ones who work in the fields as well as provide for fodder grass for the cattle. Irrigation facilities to the field has initiated fodder grass and berseem to be grown in the agricultural fields itself and the villagers have reverted to stall feeding. Not only this, there is an increase in the cow dung productivity which can be used as fuel, making it an easier situation for the women as they have to collect less fuelwood from the fields as well as the forests. But such a 'happy' situation is not for all the women; the women from Scheduled Castes are the worst sufferers as they do not have any land holding as a result of which no fodder grass is available to the livestock. Hence, the economically backward in the village feel that they are not able to benefit by the water from the dam. Such a situation has been resolved in some villages like Sukhomajri where the villagers, having no land are able to sell their rights of the use of water to other villagers, while in other villages a situation of supressed resentment or clash of interest is slowly arising which needs to be mollified.

Productivity

The productivity of the Haryana Shiwaliks since the implementation of JPFM Programme has been steadily improving. First of all, due to the provision of water in the agricultural fields, production has improved and there has been a four fold increase in the yield of various crops like wheat and maize. There has been an encouragement to the animal graziers to shift from open grazing of goats and cows to stall feeding buffaloes etc. Most of the families in the villages of Nada, Lohgarh, Dhamala, Sukhomajri etc. have sold their goats and have brought cattle and water buffaloes, better suited to stall feed. Women have been most affected by such a situation as women usually work in the agricultural fields. Most of the fuelwood and fodder requirement can be fulfilled from the fields itself as a result of which they do not have to go to the forests for long distances to collect fuelwood and fodder. Grazing of animals was also done by the women and children but due to the advent of stall feeding, the whole process of livestock rearing has been made much easier, especially the collection of cowdung used as fuel.

The closure of the watershed in most of the areas had resulted in the rapid regeneration of indigenous fodder and *bhabbar* grasses. The HRMS requested the FD to give the lease of the adjoining forest area to them than the middlemen, who had sub-contracted to the villagers in the past. Providing leases directly to the local societies was a significant step in transferring some formal management of neighbouring government forest lands to the villagers. The combination of lowered lease price, through elimination of the middlemen plus increased grass productivity resulted in an increased income generation to each family in the village.

Women of the *banjara* community have the traditional occupation of rope making. It is generally the men who go into the forest to cut *bhabbar* grass while the women have the responsibility of first cutting the grass, beating it on the ground and then drying it. It is then finally woven into ropes either manually or by machines and sold in the nearby markets at Panchkula, Manimajra or Chandigarh. Due to the increased productivity of *bhabbar*, the women have benefited as they now have a means of occupation throughout the year (they are the main bread earners of the family) and also *bhabbar* is now available to them at lower rates because of the lease being directly given to the society in their village.

The same is the case for the women of the *Bhanjada* community of Kalka, Badgodam and Bowana who are mainly involved in bamboo basket making. Before the advent of JFMP, the women used to find it very difficult to get raw material (bamboo) to keep them occupied even for six months of the year. Under the programme, the villagers were involved in protecting the forest area, as a result of which bamboo produced from the area increased and at present each household in the *Bhanjada* community got 100 bamboos per month for 9 months (September-May) at very nominal rates. This helped the women to be occupied for at least 10 months in a year. Women were mainly involved in basket making while men were only involved in the marketing of the finished produce (baskets) in the nearby market of Kalka.

Equity

A primary assumption of the HRMS strategy was that the resource systems need to be designed so that all community members would benefit equally. In case of water from the dam, the distribution mechanisms should be designed in such a way, that it allows even the landless families to benefit from the new resource as in the case of Sukhomajri where the landless sell their user rights of water to the landlords. In Dhamala village the rate for fodder grass is fixed at Rs. 150 but for the landless who are not able to use the water from the dam, the rate is fixed at Rs. 100. Hence in villages where the HRMS holds the fodder grass leases the villagers are making transitions from grazing to stall feeding.

As women in the village carry out most of the dairying and fodder collection tasks and due to the advent of stall feeding, their labour inputs into livestock have increased since this programme was initiated. Hence more attention needs to be given to assist women to gain leadership positions in the HRMS, especially where women are the primary users of grass and forest lands.

Sustainability

In most of the societies formed till date, there are at least 2 women members in the Management Committee. In order to improve their situation further it is essential that the influential and other members in the Management Committee allow concessions in favour of the women or other disadvantaged groups in the village interest. This could also be done by forming small sub-groups under the main HRMS umbrella so that they could operationalise the equity sharing of resource which they are utilising or dependent on.

A number of institutional, legal, economic and technical issues will largely determine the sustainability of the emerging Joint Forest Management Systems in the Shiwaliks. The water harvesting structure built should be maintained preventing sedimentation in the reservoirs. Otherwise the societies dependent on irrigation would suffer heavy losses. The water entering these reservoirs has also dwindled due to reduced run-off from the catchment due to planting on them. Better exploitation of the increased water available in the ground water can be done through tubewells to maintain agricultural productivity over the years.

The societies should also formulate proper management systems of the fodder and *bhabbar* grass leases. In some cases societies are controlled by a few influential individuals who raise the lease payment and take the profits and such cases when benefits are not equitably shared.

Women seem most affected in situations in which the societies fail to reach a consensus regarding the operation or distribution of various incentives like fodder grass. In such cases the women have to either buy fodder at very high rates from the contractor or purchase it from some external source or market. The women of the *Banjara* community totally dependent on *bhabbar* grass for their subsistence have to pay a high price when the societies are unable to evolve proper management systems. They will buy *bhabbar* in high rates reaching Rs. 700-800 per quintal from the contractor and convert them into ropes for selling in the market. Some of them were of the opinion that the forest department or other external agencies should intervene to identify viable social units for management responsibilities and assist them to develop leadership and management capacities. The HRMS should also respond to their own need by developing a federation which could assist with training, auditing, marketing and legal support. These could be instrumental in reshaping the HRMS programme and enhancing its sustainability.

The challenges faced by women are many and to fulfil their needs of *bhabbar*, fodder grasses and bamboo etc., it is time that the women take active part in the management committee of the societies so that they are able to evolve proper management systems to maintain productivity of the protected forest areas on a sustainable basis. The Government, the Forest Department, NGO's and other individuals should join hands with the women and others suppressed people to sustain their initiatives. □

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One thing that is clear in the above discussion is that rural housing schemes cannot be implemented in isolation. What is important is that such schemes should be affordable and sustainable. Thus planning of rural housing schemes should carefully integrate rural, social and cultural fabric. Location can sometimes play a very crucial role and therefore may lead to success or failure.

A scheme cannot be said to be successful unless it is sustainable and has sufficient cases of replication. In order to obtain this it is necessary to bring these schemes within affordable limits of the beneficiary. Poor loan recovery is an indicator of degree of unpopularity of such schemes. Therefore, it should be mandatory for the beneficiary to bear a part of the capital cost as well as depreciation cost. This calls for linking RHS with employment generating schemes as envisaged in the Eighth Five Year Plan. This will also have an impact on rural urban migration as rural employment generation will support local population. Consequntly vacancy rate of rural housing will also go down which in turn will solve housing problem in urban areas.

Housing restoration and upgradation forms an integral part of any housing programme. Revitalisation of old houses not only saves scarce financial resources but also provides housing in a comparatively shorter span of time and in user-friendly location.

Taking into account Government's policy to promote decentralisation of activities and strengthening Gram Panchayats, rural housing demand is likely to go up in near future. With mammoth target on the one hand and limited resources on the other, it is imperative to promote and propagate low cost and user-friendly, appropriate technologies. This in other words means involving community from planning through implementation stages. The near future will therefore assign dynamic roles to building centres and other voluntary agencies. Similarly, the development of the rural habitat linked with village based employment/economic support progrmames is also necessary which enhance the family income base. This will infact mean a rational approach in terms of integrated development and provision of support infrastructure. Successful implementation of RHP could also alleviate the serious problems in urban areas. □

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Role Of NALCO In Orissa's Industrialisation

Dr. Kishor C. Samal

THERE has been competition among the State Governments and within the State among the different regions for the location of central public sector undertakings. This competition is due to implicit assumption that the coming up of a modern large-scale industry in their region would have beneficial linkage effects on their economy. In some cases, the availability of the major raw materials/inputs make the demand of the State stronger for establishment of a public sector unit.

The National Aluminium Company Limited (NALCO) was registered on 7th January 1981, with technical collaboration and financing of France. The total capital cost of Rs. 2408 crore has been financed by Rs. 1119 crore equivalent of Eurodollar loan raised through a consortium of international banks and Rs. 1289 crore coming in from the Government of India Plan Funds which of course included Rs. 156 crore equivalent French credit on plants and equipment purchased in France. NALCO is the fifth Aluminium Company in India and second in public sector. It is one of the largest integrated aluminium projects of the world. The integrated complex of NALCO has five main segments: (i) Bauxite mine at Panchpatmali, (ii) Alumina Refinery at Damanjodi, (iii) Aluminium plant at Anugul, (iv) Captive Power Plant of 600 MW at Anugul, and (v) Port facilities at Visakhapatnam.

Aluminium production of NALCO in Anugul has increased from 25.4 thousand tonnes in 1987-88 to 192.02 thousand tonnes in 1991-92, power generation of captive power plant from 174 million unit in 1986-87 to 3531 million units. The sales turnover of NALCO in general increased from Rs. 88.76 crore to Rs. 969.69 crore, and foreign exchange earning by exporting both alumina and aluminium from Rs. 15.99 crore to Rs. 385.90 crore during 1987-88 to 1991-92. Despite the good performance in production and marketing NALCO's profitability is bogged down due to devaluation and partial convertibility of rupee. However, now due to full convertibility of rupee, there may be improvement in the profitability of NALCO.

NALCO has bagged capexil export award for 5 consecutive period. It has drawn an ambitions expansion cum diversification programme involving an investment of over Rs. 3,500 crore for (i) production of aluminium based product like extrusion, (ii) power generation, (iii) a hundred per cent Export oriented unit, (iv) an alumina plant and (v) a cement plant. NALCO is also listed among 31 select public sector undertaking for disinvestment of Government shareholding. Already equity holding worth about 35 crore has been sold to financial institutions and mutual fund in the 1st phase during January-February 1992.

Aluminium metal produced by NALCO can be used as input by different sector, such as (i) Electrical, (ii) Transport, (iii) Building and construction, (iv) Machinery equipment and others (v) Packaging (vi) Household and other miscellaneous. It is to be noted that around half of the aluminium metal in India goes to electrical sector followed by household and miscellaneous sectors. However, while consumption of aluminium is coming down in electrical and household sectors, it is gradually increasing in transport and building & construction sectors in India. A few aluminium-based units have also come up in Orissa recently.

Besides major inputs like alumina and power, around 76 ancillary, spare and consumable items are required by NALCO itself. Moreover, around 12 additional items from foundry to coal-tar pitch are necessary for Smelter and Power Division of NALCO (Anugul). The Development of ancillary units in Orissa had been steady. But NALCO, till now, has not given ancillary status to any unit. However, NALCO has already constituted Plant level Advisory Committee and other committees to review and implement their purchase policies and overall development of ancillaries and SSI units. After the commissioning of the plant, NALCO has registered about 69 SSI units within Orissa who are participating in NALCO's purchase programme. About 44 SSI units have been considered for recognition of ancillaries. But the total purchase of NALCO for SSI was around Rs. 13.32 crore during 1990-91. The main obstacle in the way of ancillarisation

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The Sanitation Situation A Case Study

Sabir Ali

IT is a well known fact that the absence of proper facilities for the disposal of human excreta leads to a variety of problems. Clean, healthy, cheap and socially unihibiting means of human excreta disposal is a primary requisite for the development of the family and society on the one hand and cities and nations on the other.

Statistics reveal that only 6.3% of the total population of India had access to safe means of human excreta disposal in 1981. The coverage improved by just one per cent from 6.3% to 7.3% in 1985. More than 90% of Indians still cannot perform their daily ablutions in a safe, healthy, hygienic and aesthetic environment. The situation is grave indeed.

In the above context, the Central Government has launched various programmes over last several years. Liberation and rehabilitation of scavengers through conversion of dry latrines into pour-flush waterseal latrines is one of them.

Under the provisions of this programme a massive conversion of dry latrines into pour-flush waterseal latrines has taken place in the country. The implementation of this scheme has been taken up in about 490 towns in various States. Out of these around 40 towns have been made scavenging free and about fifteen thousand scavengers have been liberated so far. In this paper, an attempt has been made to:

i) understand and appreciate the sanitation situation in the two towns of Madhya Pradesh,
ii) evaluate the maintenance and performance of the system (P.F. latrine) provided under the scheme to the needy households, and
iii) suggest measures for the sanitation improvement.

To achieve the above objectives two towns, namely Satna and Khandwa were selected from the Central North and Central South of the State of M.P. for specific observations. 100 beneficiary households were interviewed to know their reactions and experiences and suggestions were sought from the knowledgeable users.

In Madhya Pradesh, various agencies like UNDP/World Bank, Ministry of Urban Development, Ministry of Welfare, Housing and Urban Development Corporation (HUDCO) and State Government are implementing low cost sanitation projects since last one decade.

Under this project Rs. 2.03 crore were utilized on construction of about 16.4 thousand PF latrines and Rs. 3.4 lakh on construction of one community latrine. These constructions were done by contractors and the NGOs in six cities with the funding of the World Bank.

The Ministry of Urban Development had allotted Rs. 61.41 lakh to local authorities of 13 towns in M.P. for implementing LCS under IDSMT (Integrated Development of Small and Medium Towns) Programmes.

The Ministry of Welfare also released substantial funds. The Housing and Urban Development Corporation (HUDCO) has given loan of Rs. 6,454 crore to meet its share under the Basic Sanitation Scheme (Non-integrated). As a whole about 1.64 lakh dry latrines have been converted in the State upto 1991.

According to 1991 census, the population of Satna was 1.60 lakh and of Khandwa 1.45 lakh. The share of SC/ST population is 17.6 and 13.4 per cent respectively. Out of 82 wards in both the towns only 15 have about 20 per cent scavenger households. Remaining wards are predominantly upper caste Hindus.

In Khandwa, most of the families were using dry latrines for defecation. There were only five families in the sample which were practising open field defecation. The situation in town Satna, however, was found to be entirely different. Here the common practice was open field defecation. Only seven families surveyed in this town were using dry latrines for defecation purpose prior to the construction of pour-flush water seal latrines.

A brief survey of the characteristics of the beneficiaries brings about two basic features of the population in the two towns. The first feature is that in general, upper caste Hindus and Muslims had opted for the pour-flush water seal type latrines. The low caste Hindu did not appear to have opted for these latrines. This pattern reveals the difference in the life styles of the two groups of community. The second feature that comes out of the analysis of the basic characteristics of the respondents surveyed is that dry latrines were not common in town Satna.

The survey revealed a widespread use of the PF latrines. Out of the 100 beneficiaries surveyed, slightly more than three fourth replied that they were using the latrine. Proportion of beneficiaries using PF latrines was, however, much higher in town Khandwa than in town Satna.

During the visit to these towns, an attempt was also made to assess the condition of the latrines constructed under the scheme. In general, the latrines were not in good condition.

Interestingly, in more than half of the sample families where latrines were in use, children did not use these latrines. Rather they opted for open field defecation. The reason for this practice was that the seats of these latrines were uncomfortable for children. Either they were too big for children or children developed a fear psychoses against these seats. By contrast, beneficiaries found open field defecation much easier.

The problems of maintenance of PF latrines was also revealed when respondents were specifically asked who used to clean these latrines. Majority of the respondents responded that these latrines were cleaned by members of the family themselves. Keeping in view the fact that neither the beneficiaries nor their family members were provided either with any information or any back-up about the maintenance of the latrines, it is clear that cleaning by the family members specially when the latrines get choked was not upto the mark. A simple support to this conjecture is provided by the information on methods adopted for cleaning the latrines at the time of the survey.

Observations

The following observations have emerged from the study:

As far as the maintenance of the two pit waterseal pour flush latrines is concerned, the situation does not appear to be satisfactory. The reasons for unsatisfactory maintenance are (a) scarcity of water, (b) low level of literacy, (c) lack of awareness and knowledge of the working of the PF latrine, (d) poor quality of construction, (e) sticking of excreta to the pan, (f) choking of outlets, (g) choking of Y-junction, (h) difficulty in emptying the pits, and (i) collapse of brick drains.

— Nearly one-third of the sample households in the case study towns are not using the PF.
— In cases where problems do occur, these are generally on account of improper slope of the connection drains and absence of a superstructure.
— Unhygienic methods of excreta disposal like bucket latrine and open to sky latrines are in existence in selected towns.
— Another major problem which leads to poor hygienic condition has been the absence of a superstructure on account of which rain water finds way into the leach pits through the squatting pan and leads to over flow of sewage.
— The local agencies have a major role to play in maintaining the latrines and emptying the filled up pits. It was found that local agencies do not extend the required assistance to the people on account of shortage of personnel and equipment etc.

Suggestions

The author is of the opinion that till the time construction of new dry latrines and cleaning of old dry latrines is stopped in the country, the problem of scavenging is likely to continue. To solve this problem on permanent basis, the following steps may be taken:

The Government should impose following legal measures for the use of PF latrines (LCS programme) in low cost housing colonies, slums and other such localities.

a) No new building/house should be allowed to be constructed without PF latrine.
b) Where sewers are available, the dry or bucket latrines after conversion should be compulsorily connected to them and this be legally enforced.
c) In the unsewered areas, leach pits should be provided for converting latrines into water-flush latrines.
d) A ban on new construction of dry or bucket latrines be placed.
e) Ban on scavenging be enforced with a withdrawal of municipal facilities such as water supply etc. within a limited time frame in case of infringement of ban.
f) Government should provide sufficient powers to local authorities under the existing rules and bye-laws to expedite implementation of LCS programme and to prevent construction of dry latrines.

— For the beneficiaries, who are very poor or below the poverty line, the PF latrine should be provided free.
— Appropriate monitoring and feed back system should be set up at district and state level to identify the problems and hurdles hampering the progress and to solve them quickly
— For a speedy and successful implementation of the Scheme, necessary inputs should be provided to the implementing agencies like trained officials and funds etc.
— Separate budget provision for low cost sanitation programme should be provided and it should be included in the Minimum Needs Programme so that provision made for LCS could not be diverted or reduced.
— There is a need for an accurate survey to assess the dimension of scavenging in each town.

— Extensive awareness and training programmes are a must so that the users become fully aware of the functioning of the PF latrines and are able to use them properly and maintain the latrines in a hygienic manner. Pre-installation and post-installation montioring is essential.
— Beneficiaries have to be educated about the benefits of using PF latrines. The motivation, promotion, education and user participation are crucial to the success of any low cost sanitation scheme.
— Cost of superstructure should also be included in the cost of construction of PF latrines. The superstructure over the latrine cubical should be constructed simultaneously with the latrine to ensure its immediate use.

The conversion of dry latrines into PF latrines is not upto the satisfaction level due to various reasons like inadquacy of funds etc. in Madhya Pradesh. The implementation of the sanitation project in the light of suggestions given above, will certainly improve the overall sanitation situation. □

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is the inferior quality of goods supplied by SSI units.

Rich Endowment

Orissa is endowed with vast mineral, forest and agricultural resources and a long coastline. It has also abundant natural and human resources. There are also a large number of liberalised promotional methods and promotional agencies. But in spite of all these efforts, particularly steps since 1980, the growth of industries has been slow. It is an industrially backward state. Even though Orissa has vast mineral resources, except Rourkela Steel Plant (RSP), no other large industrial unit based on mineral resources was set up till 1981. NALCO was set up to exploit around 1000 million tonnes of bauxite deposit in Orissa,

As mentioned earlier, NALCO has its alumina plant at Damanjodi in Koraput district which is an underdeveloped district and the smelter plant and captive power plant in Anugul whiich is in developed Dhenkanal-Talcher-Anugul industrial belt. Anugul is in Dhenkanal district. There are 39 registered units (1984-85) in the whole district, and 147 commercial establishments in Anugul, 88 in Talcher and 99 in Dhenkanal Municipal area. Total number of SSI units is 162 with employment of 1187 in Dhenkanal district. Some of the units are in Industrial Estates. There are 15 units in Anugul Industrial Estate, 18 in Mahisapat, 7 in Korean, 8 in Talcher Industrial Estates. The number of aluminium-based units in Dhenkanal district is 6 out of which 3 are in Anugul. Around 35 units in the district are supplying ancillary items, mostly iron and steel fabrication to NALCO (Anugul) out of which 9 are in Anugul. Around 67 units in Orissa are utilising aluminimum ingots from NALCO for their product. Most of the units have come up in Cuttack and Puri districts. There is also rapid growth of informal activities around NALCO plant and residential area. There is also growth of commercial trade, transport, agricultural and allied activities due to the establishment of NALCO at Anugul.

The aluminium scenario in Orissa will undergo a dramatic change due to the current economic scenario such as (i) glut in international aluminimum market and falling price of the metal, (ii) expansion and modernisation of a private sector aluminimum company viz. HINDALCO—outside Orissa but inside India, (iii) clearance of two mega aluminimum projects by the Government of India which will come up in Orissa—Rs. 1900 crore project of L&T and Rs. 2000 crore project jointly by INDAL and TATA, (iv) Working of INDAL and ALIND at Hirakud in Orissa, (v) Possible opening up of BALCO in public sector in Padmapur in near future and (vi) of course the recent modernisation and diversification programme of NALCO itself.

Due to these factors, there is a great scope of setting up of new industries for utilising the aluminimum metals through the forward linkages of Aluminium Plants as well as indsutries to supply ancillaries/inputs/spares and consumables to the aluminimum plant. □

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Handloom Sector—Renewed Thrust To Weavers' Welfare

ETHNIC designs, woven in bright colour fabrics bear a distinct seal of traditional artistry of an Indian weaver. With increasing fad to go for 'ethnic' clothes and its popularity among the dress designers to give an 'exclusive' range, handlooms have found a new fallow field at home and abroad. About 27 per cent of the total cloth produced in the country comes from the handlooms which earn substantial foreign exchange. Though carving a lucrative export market for itself, handlooms remain largely village based, practised as an ancestral occupation.

The handloom industry, in fact, is the largest economic activity after agriculture and provide direct or indirect employment to about 10 million people in India. Today there are approximately 39 lakh handlooms in India, of which 22.1 lakh are commercial looms concentrated in Andhra Pradesh, Assam, Manipur, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal. It is estimated that about 156 lakh families are engaged in this activity of which 60 per cent are women.

Health Care

As most of the weavers engaged in handloom industry fall in the unorganised sector, Government has taken special care for the development and welfare of the handloom weavers. In a recent move, a new health package scheme has been announced in March this year, to provide medical assistance for weaving related diseases and health problems of the handloom weavers. Under the scheme the weavers will be provided financial assistance for treatment of diseases like asthma, T.B., and inflammation of alimentary system and covering the expenses for regular eye check-up and spectacles. It would also extend maternity benefits to women weavers and to the women in a weaver's household. For taking permanent measures of family planning additional compensation would be given. Priority would be given to develop infrastructure for primary health care and supply of drinking water. During the current year Rs. 369.648 lakh has already been released to the seven States of Assam, Bihar, Kerala, Madhya Pradesh, Orissa, Tamil Nadu and Uttar Pradesh for the scheme.

The health package scheme is being implemented as part of welfare package which includes thrift fund scheme and group insurance scheme. In the current year, budgetary provision has been made to the tune of Rs. 6 crore for the entire welfare package whereas the Eighth Plan outlay for welfare package is Rs. 25 crore.

Protective Measures

Another major scheme launched in March is for the rehabilitation of riot affected handloom weavers. The scheme envisages provisions for construction of worksheds, supply of looms and margin money for working capital to the weavers whose looms, worksheds, raw materials, etc. were destroyed or damaged in recent riots. The assistance to the tune of Rs. 4000 for construction of worksheds and Rs 2000 for margin money would be provided by the Centre. For purchase of the loom Rs. 2000 as grant and Rs. 2000 as loan would be given by States and the Centre on matching basis. The funds are met out of the available budget provisions under schemes like project package scheme and margin money for destitute weavers.

The State Governments have been asked to submit proposals for rehabilitating the affected weavers immediately. Following their proposals, Rajasthan and Uttar Pradesh have been released Rs. 11.5 thousand and Rs. 10.40 lakh respectively. For the year 1993-94, a budget provision of Rs. 15 crore has been made under Project Package Scheme, part of which would be available to assist the weavers during the current year. The Eighth Plan outlay approved for Project Package Scheme is Rs. 46 crore.

Integrated Development

The Project Package Scheme is a composite scheme to take care of the needs of the weavers with a specific target of developing a particular product or area or type of weaving. Also in the identified villages comprehensive support is being extended to supply equipment and upgrade their managerial skills along with ensuring the regular supply of raw materials to upgrade their skills and increase productivity. Such concerted and need based attention is given to weavers under the Integrated Handloom Village Development Scheme (IHVDS) which aims at their overall development by providing adequate housing facilities and creating community assets.

In a major departure from the

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Review Article

Paying For Health Care

THIS book is an edited volume of twelve articles by eminent health economists and health policy analysts about health, health care and resources thereof. The idea for the collection of these papers emerged from a workshop on "Health Financing Research" held in 1988 under the auspices of Operations Research Group, Baroda and Ford Foundation.

In his learned Foreword, P.K. Umashankar, former Additional Secretary, Ministry of Health and Family Welfare observes that "In India, health finance or health economics research has had a limited focus and coverage..... Surprisingly, few universities and Social Science research institutions have shown interest." His view that, in our country, many persons who are ill have no access to the health care system will be shared by many. In early July 1993 in a commentary on the World Development Report—1993, Dr. V. Ramalingaswamy, former Director General of the Indian Council of Medical Research (ICMR) and a top health administrator warned that the country faces a general deterioration of government financial health care and that health services for the poor constitute one of the 'garvest crisis in India'. He said that public hospitals are functioning under severe stress with unbearable patient loads and insufficient resources. Dr. Ramalingaswamy described the present health care scene by stating that although, theoretically, the poor have access to unlimited health care at all levels, both in urban and rural areas, the situation is vastly different.

In his assessment, "there is large scale misappropriation of services by the affluent and those close to the seats of power, adversely affecting the access of the poor to basic services and to good quality care". Basic public health services and essential clinical care services should be public financed while much of the secondary and the bulk of tertiary care should be largely self-financed, the report suggests. Welcoming the policy guidelines, he said that the report raises issues like fees in government hospitals, health insurance and community financing that Indian health administrator ought to debate and resolve.

The speed with which old assumptions are shifted by new possibilities is truly dazzling. The economic reforms being pursued by the present government have intimate and closely linked policy options in relation to public financing of social services, e.g., education and health care. Already, there are murmurings and discontent among a section of the people opposed to gradual withdrawal of government subsidy on items which are not necessarily benefitting the largest group of poor. The publication of the book under review is thus not only timely but also extremely relevant to the present day needs.

PAYING FOR INDIA'S HEALTH CARE: Edited by Peter Berman & M.E. Khan; Sage Publications, New Delhi, 1993; Pages 326; Rs. 295.

Apart from the Introduction—which is lively, informative and thought provoking—by the editors, there are twelve articles included in the volume. The first article by, P. Berman on Health Financing Research in India: Issues, Data, Policy and Programme Measures, discusses the different types of enquiry and applications that can be subsumed under 'health financing research'. His observations that "some regard health as a basic human right (hence a matter of extraordinary or transcendent value), and argue that the State should assure adequate access for all to those actions required to assure health. Such an absolute position may be appealing from an idealistic perspective based on social justice, but it is likely to be unaffordable unless some limitation is placed on what can be included as health", and "currently, health financing is everybody's, and nobody's business. The Planning Commission lacks the capacity to carry out a sustained analysis of health financing issues on the scale required in a country the size of India. The Ministry of Health and Family Welfare also does not, at this time, have a single unit with the necessary over-view of the different departments. And, in any case, the Centre's role in overall financing of the public sector system is limited. To take full advantage of the potential for system reform, some institutional base or bases are needed", deserve notice by the authorities. Ravi Duggal and N.H. Anita in their article Health Financing In India: A Review And An Agenda call for renewed effort to bring this component of health system development into the forefront.

The next article is by V.B. Tulasidhar and J.V.M. Sarma entitled "Public Expenditure, Medical Care at Birth and Infant Mortality: A Comparative Study of States in India". N. Bhaskara Rao, M.E. Khan and C.V.S. Prasad in their

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Book Review

INDIA 1992: compiled and edited by Research and Reference Division, published by Director, Publications Division; Ministry of Information and Broadcasting, Govt. of India; Pp 910; Price: Rs 130.

This is the 37th annual edition of India Reference Annual. This compact book gives a birds eye view of this country in almost all its varied facets. In its 31 chapters information with its background is given on a host of topics like Land and the People, the Polity, Defence, Education, Scientific Research, Mass Communication, Finance, Planning, Agriculture, Industry, Labour, etc. Various other topics like—India and the World, States and Union Territories, Diary of National Events—1991 and general information—have been appended in addition to information about various awards and laws enacted by Parliament. In a nutshell, all facts worth knowing about India have been included in this reference annual. It is a must for all reference libraries.

This book over the years has been proving immensely valuable for all sections of readers—researchers, candidates appearing in various competitive examinations and students in general. The printing and get up are attractive.

MDP

MASS MEDIA IN INDIA 1991: compiled by Research and Reference Division, published by the Director, Publications Division, Ministry of Information and Broadcasting, Govt. of India, Pp 334; Price: Rs 120.

The book under review is being brought out annually since 1980. It seeks to focus on significant developments in Mass Media during 1990 mainly for media operators, researchers and students. It highlights the activities of various media organisations of Central Government, States and Union Territories. In the current issue, information has been appended on the Press Institute of India—Research Institute for Newspaper Development (PII—RIND) and Central Institute of Indian Languages (CIIL). The book contains interesting articles on some aspects of journalism covering TV, political reporting, Ombudsman, photo journalism, cartoon and women in journalism—by veteran media persons. On the aspect of production, a little more care was called for considering its select readership.

MDP

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contribution "The Planning Process and Government Health Expenditure Patterns in India in the early 1980s", show the actual composition of public spending in both programmatic and input terms—a contribution which should be a routine part of health planning. P.R. Panchamukhi in an appraisal of Public Financing of the Family Welfare Programme in India, provides an analysis of the balance between administrative and support costs, service delivery expenditure and outputs. "Adequacy, Equity, and Efficiency of Public Expenditures on Nutrition in India" is the topic dealt with by K. Subbarao. It is shown that nutrition expenditure suffer from problems of targeting and focus similar to those found in inter-State comparison of health expenditure. It is to be hoped that in future nutrition will be included in discussions of health expenditure and programme development. The Chapter on "The Private Health Care Sector in India" is by Ramesh Bhat. He laments on the absence of purposeful health policy analysis or action relative to private health services. "Health Sector Development and Financing in Pakistan and some Comparisons with India" is the chapter by Roger Jeffery. It is observed that 'health' has received a much lower priority in Pakistan's plans, and the private sector has been allowed a much freer rein. It is also significant that India is a 'superior health achiever' in terms of the relationship between infant mortality rate and per capita GNP. The last four articles focuses on the operational level providing examples of relevance of the analysis of cost and financing and demand for health care. These are on Hospital Costs and Financing in Maharashtra by J.K. Satia and N.S. Deodhar; Concepts and Practices in Health Care Insurance Schemes and Recent Examples in India by G.Giridhar; Use of and Spending on Curative health Care in a Tribal Block of Madhya Pradesh by D.K. Mishra, G.D. Pandey and P.K. Sinha and Community and Self-Financing in Voluntary Health Programmes in India by Priti Dave.

How to pay for India's health care is an important issue. This publication contains information that will help in finding an answer to the question. All those concerned with the topic will find the book a timely and useful contribution.

Dr. P.S.K. Menon

Public Sector Heavy Units Look Up

THE 48 Public Sector Undertakings under the administrative control of Department of Heavy Industry achieved an aggregate out-turn of Rs. 16,152 crore during the last two years reflected a growth of 15 per cent over the out-turn of Rs. 13979 crore. The undertakings which achieved significant growth in production are Bharat Heavy Electricals Ltd., Andrew Yule & Company Ltd., Bharat Bhari Udyog Nigam Ltd., Bharat Yantra Nigam Ltd., Heavy Engineering Corporation Ltd. and Hindustan Newsprint Ltd.

The undertakings have achieved a significant growth in the exports. Total exports were Rs. 1772 crore in the last two years by these undertakings as compared to Rs. 1343 crore in the previous two years, signifying a growth of 32 per cent.

With a view to enhancing the global competitiveness of Maruti Udyog Ltd. (MUL), facilitate inflow of foreign exchange to finance MUL's expansion programme and to give it more autonomy in its operations a Subscription and Amendment Agreement was signed among the Government of India, Maruti Udyog Ltd. and Suzuki Motor Corporation, Japan (SMC) on June 2, 1992 to enable SMC to increase its equity in MUL from 40 per cent to 50 per cent. Consequently, MUL as a non-Government company is likely to achieve international competitiveness.

As a part of restructuring of public sector, studies in respect of three major enterprises, namely, Bharat Bhari Udyog Nigam Ltd., Bharat Yantra Nigam Ltd. and HMT Ltd. with the aim of making their operations competitive have been completed by the foreign consultants with World Bank grant and action for implementation initiated. A package of Rs. 1500 crore in fresh investments is being contemplated for these companies.

The first phase of Rihand-Delhi High Voltage Direct Current (HVDC) Project, jointly executed by BHEL and Asea Brown Boweri for NTPC was inaugurated on July 6, 1991. Bharat Heavy Electricals Ltd.'s scope of work included design, manufacture, erection, testing and commissioning of 2 Nos. of 400 KV, Rihand-Delhi convertor Terminals and 2 Nos. PLC Repeat Station.

Bharat Heavy Electricals Ltd. won a prestigious export order for 3 Nos. 150 MW gas turbines from Siemens, Germany. This is the first time Bharat Heavy Electricals Ltd. has received an order for gas turbines from a highly industrialised country in Europe. This also heralds BHEL's entry in the export market of gas turbines.

Vidyasagar Setu accross the Hoogly river at Calcutta was opened to public with its inauguration by the Prime Minister on October 10, 1992. Erection of this was done by Braithwait Burn & Jessop Construction Company, a subsidiary of Bharat Bhari Udyog Limited. This is one of the longest cable stayed bridges of the world and the first cable stayed bridge constructed in India.

Bharat Heavy Electricals Ltd. has set up "The Amorphous Silicon Solar Cell Plant" near Gurgaon for manufacture of Amorphous Silicon Solar Cells, marking a major breakthrough in commercial exploitation of solar energy with the development of amorphous silicon technology. The Prime Minister dedicated this plant to the nation on September 18, 1992.

There was no major labour unrest during the last two years in any of the undertakings under the Department causing any law and order problem etc. □

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past, the entire approach for planning and implementation of various handloom development schemes has been integrated with the rural development programmes. Action has been initiated under four specific schemes which would increase the coverage of handloom weavers manifold under various rural development programmes. These four schemes, would provide 3,27 lakh loomless weavers with looms, worksheds and working capital in a phased programme in three years. A total of Rs. 523 crore will be spent on this of which Rs 130.80 crore would be Central subsidy and the balance of Rs. 392.40 crore would be through bank finance at concessional rates. A suitable monitoring mechanism is being evolved to ensure that benefits of each scheme reach the targetted beneficiaries across the country. □

Use Of Plastics In Agriculture

L.S. Srivastava

PLASTICS are now a part of our daily life. Its use in agriculture too is spreading fast with about 40 per cent of total plastic consumption in our country in this sector. Of late, it has also been recognised that plastics offer a new potential for further increasing agricultural yield by enhancing the efficiency of other agricultural inputs already in use.

The use of plastics in irrigation has proved to be a boon in increasing water use efficiency, decreasing waterlogging and soil salanity and minimising wastage during water conveyance, etc. Polythenes are also being used on commercial scale in lining of water storage structures, particularly in laterite and sandy soils as also in canals, reducing water loss through seepage. Prudent application of advanced methods of irrigation viz., drip, sprinkler and use of P.V.C. pipes in water conveyance has enabled maximum utlization of scarce water resource in desert and semi-arid regions.

The wastage during the post harvest storage and preservation can be minimised by using plastics. By using black plastics on floor for sun drying of agricultural products 15 per cent time can be saved. Storage life and quality of fruits and vegetables can be increased by simply storing them in polythene packings. Polythene storages are also used for enhancing ripening of fruits like Banana, Mango, Lemons, etc. Post harvest losses of fruits and vegetables can be significantly reduced by using polythene lined packing material not only in wooden or hard board cases but also in country made bamboo asket packings.

Low density polythene linings which are largely being used for constructing plinth storage structure, fumigation chambers, threshing floor, winnowing floor, drying floor, mixed with mud and cow dung 3:1 ratio or beneath brick floor can work as air tightner, thermal insulation, insect and rodent proof and moisture proof. It is cheaper too and therefore, polythene lined storage bins are also being fabricated for farmers use.

Green Houses

Use of plastic green houses for increasing the yield and productivity of horticultural crops, vegetables, flowers and ornamental plants by controlling environment is gaining world wide acceptance. These are considered more favourable compared to glass house because of lightness, mobility, flexibility, impermeability, resistance to hail and wind. Such green houses help in growing out-of-season crops and quality produce. It also helps in producing disease free, better quality planting material of horticultural crops. Plastic green houses also provide better opportunity of producing cut flowers for export purposes. Low cost plastic houses for nursery raising is also popular now-a-days.

Other Uses

a) Plastics can be used as temporary cover to protect crops from frost, birds, winds, insect attack, etc.

b) The studies have shown that mulching the soil with black polythene not only preserve soil moisture and maintain soil temperature but have increased the yield in mustard and few other crops.

c) In Israel, red colour polythenes are used as mulch in tomato crops for getting dark red colour in tomatoes. Similarly, different coloured polythene mulching are being used as repellent to various insects.

d) In sericulture high density plastic sheets are used as tray for rearing silk worms.

e) Plastic bags are largely used to transport fish seeds packed with oxygen.

f) Lining of compost pits with plastics saves nutrient loss of organic fertilizers into the soil.

Plasticulture, therefore, benefits us by increasing crop production, improving quality of produce, reducing storage and marketing losses, lowering cost of production, ensuring early and out-off-season crops, facilitating agricultural practices and maintaining ecological balances. As prudent developmental bankers, therefore, we can also support and encourage use of plasticulture while formulating and implementing various agriculture development schemes and contribute in augmenting our agricultural production. □

The author is faculty member, State Bank Institute of Rural Development, Hyderabad.

Development Diary

Iron Ore, Consultancy Service Offered

INDIA has offered to supply iron ore for Shanghai's Steel Industry as well as consultancy services for its sponge iron and steel sector. The possibility of developing jointly iron ore mines in India for supplying raw materials to the steel mills in Shanghai may also be examined. These matters came up during a meeting of the Deputy Chairman of the Planning Commission Mr. Pranab Mukherjee and the Secretary of the Shanghai Committee of the Communist Party of China, Mr. Wu Bangguo, when Mr. Mukherjee visited China in June last. Both sides agreed that apart from a closer interaction between the Planning Commissions of the two countries, frequent exchange of views will be beneficial in expanding bilateral trade. They also agreed on the need for closer cooperation between the Planning Commissions of India and China since both countries are presently engaged in economic reforms and integrating active state intervention with market economy. Mr. Wu Bangguo elaborated on the policies of the Shanghai government in granting preferential treatment to industrial units in the special economic zones in China in general and Shanghai in particular in order to attract foreign investment and at the same time to protect domestic industry. He also apprised Mr. Mukherjee about the development of securities market and metals exchange as well as a market for production materials, real estate and technology in Shanghai.

Crude Import From Yemen

India will import about 700,000 tonnes of crude oil from Yemen under the first-ever term contract with that country. An agreement for supply of the 'sweet' Marib Light Crude oil (with low sulphur content) for one year beginning September 1993 was signed in Sana'a recently. This contract is in line with Indian Oil's efforts to diversify sources for supply of crude oil. Under this strategy, efforts are also being made to explore the possibility of importing 'sweet' crudes from other sources, like Nigeria through term agreements. To meet the country's crude oil import requirements during 1993-94, Indian oil has already finalised term contracts with Saudi Arabia (6 MMT); Kuwait (4.5 MMT); Iran (3 MMT); Abu Dhabi (2 MMT) and Russia (0.3 MMT). In addition, Malaysia and Qatar are supplying during the year 0.5 million tonnes each under existing contracts.

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Yojana: 33 Years Ago

October 2, 1960

A Gram Of Patience

AN economic reform of great consequence has come into force this October 1, with the changeover to metric weights in several important trades and specific areas. Throughout the country, sellers and buyers of jute, iron and steel, coffee, salt, heavy chemicals and paper, among other goods, have now to weigh them in kilograms and grams. The old familiar maunds, seers and tolas cease to be legal. In the specified areas, among which are Bombay and Delhi, everything that is weighed has to be weighed by the metric system. This includes vegetables and home provisions. With the Railways having adopted this system six months ago, it can be said that a good deal of the country's commerce has now gone metric.

The change is not going to be equally smooth everywhere. Argument, insistence, irritation are bound to be there, in greater degree than when the decimal rupee came into vogue. The rupee, after all, remain the rupee whether it was divided into 192 or 100 units. But the maund has meant different things in different areas. That precisely is the reason why we should have a uniform system. Such uniformity is essential for the better integration of the economic life of various regions. A country with too many systems of weights is like a land with too many railway gauges: goods and people can't move easily from one part to another. Now is the time, when we are just entering the industrial age, to adopt modern ways. A few more years' delay and we would be too set in the old ways.

It was in 1956 that Parliament passed the metric measures law. We have thus had four years' notice. A great deal of careful effort has gone in, but the very vastness of the country must prevent anybody from claiming that everything has been taken care of. In fact, West Bengal has felt that the preparation is not enough. If our entire population had been literate, the work would have been easier. As it is, some traders, out of ignorance or design, will make a quick naya paisa in the act of converting old weights into new. Likewise some customers, out of impatience or ignorance, will feel aggrieved even when the dealer has been scrupulous. We must learn to bear with these temporary discomforts, because the greater good of our economy is involved.

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