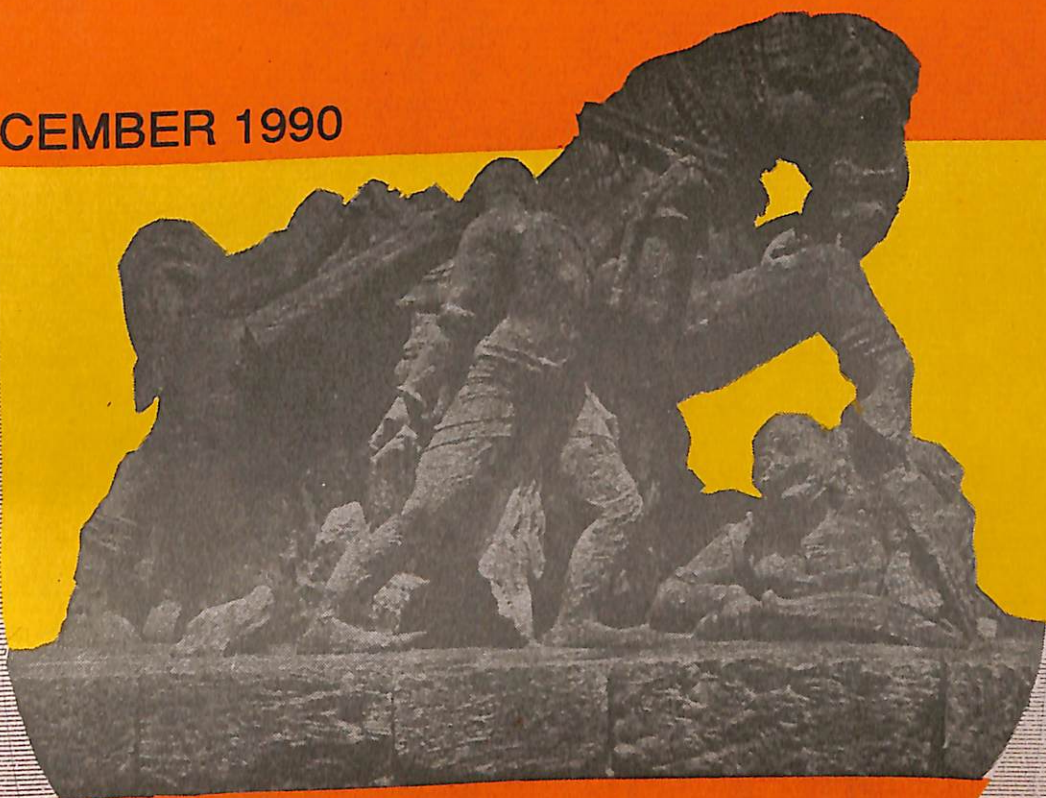


# ORISSA REVIEW

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# UNION COUNCIL OF MINISTERS

Following is the complete list of new Union council of ministers  
after allocation of portfolios on 21.11.1990

## Cabinet Ministers

<b>Prime Minister Chandra Shekhar</b>	: Defence, Home Affairs, Atomic Energy, Science and Technology, Ocean Development, Personnel, Public Grievances and Pension, Electronics, Space, Information and Broadcasting, Industry, Labour Welfare, Planning and Programme Implementation and other subjects not allocated to any other Cabinet Minister or Minister of State (Independent Charge).
<b>Deputy Prime Minister Devi Lal</b>	: Agriculture and Tourism
<b>Vidya Charan Shukla</b>	: External Affairs
<b>Dr. Subramaniam Swamy</b>	: Commerce, Law and Justice
<b>Yashwant Sinha</b>	: Finance
<b>Janeshwar Mishra</b>	: Railways
<b>Hukumdeo Narayan Yadav</b>	: Textiles and Food Processing, Industries
<b>Rajmangal Pandey</b>	: Human Resource Development
<b>Kalyan Singh Kalvi</b>	: Energy
<b>Manubhai Kotadia</b>	: Water Resources and Surface Transport
<b>Daulatram Saran</b>	: Urban Development
<b>Ashoke Kumar Sen</b>	: Steel and Mines
<b>Rao Birendra Singh</b>	: Food and Civil Supplies
<b>Saty Prakash Malviya</b>	: Petroleum and Chemicals and Parliamentary Affairs.
<b>Shakeelur Rehman</b>	: Health and Family Welfare

## Ministers of State (Independent)

<b>Mrs. Maneka Gandhi</b>	: Environment and Forests
<b>Sanjay Singh</b>	: Communications
<b>Harmohan Dhawan</b>	: Civil Aviation

## Minister of State

<b>Subodh Kant Sahay</b>	: Home Affairs and Information and Broadcasting.
<b>Bhakta Charan Das</b>	: Railways
<b>Bhagey Gobardhan</b>	: Human Resource Development
<b>Shrimati Usha Singh</b>	: Tourism
<b>Sarwar Hussain</b>	: Food and Civil Supplies
<b>Ramji Lal Suman</b>	: Labour and Welfare
<b>Jayantilal Virchandbhai Shah</b>	: Agriculture and Cooperation
<b>Babanrao Dhakane</b>	: Energy
<b>Kamal Morarka</b>	: Prime Minister's Office
<b>Basavaraj Patil</b>	: Steel and Mines
<b>Lalit Vijay Singh</b>	: Defence
<b>Ram Bahadur Singh</b>	: Rural Development

## Deputy Ministers

<b>Digvijay Singh</b>	: Finance
<b>Dasai Chowdhary</b>	: Health and Family Welfare
<b>Shantilal Purushottamdas Patel</b>	: Commerce
<b>Jai Prakash</b>	: Petroleum and Chemicals

# Approach to the Eighth Five Year Plan 1990—95

Soon after Independence, India adopted Planned development as a matter of policy. Since then, the country has made substantial progress through its seven five year plans, especially in the field of agriculture, industry and science and technology.

However, a feeling persists that our progress could have been still better and that there are areas which deservedly needed greater attention. The Approach Paper to the Eighth Five Year Plan, which has only recently been approved by the National Development Council, seeks to correct all such imbalances and addresses itself to tackling a vast majority of human problems arising out of unemployment, poverty and social and economic inequalities.

## Growth Rate

The Planning Commission has fixed a growth rate of 5.5 per cent for the Eighth Plan. It envisages an increase in the savings rate of 22 per cent. It also envisages inflow of foreign resources to the tune of 1.5 per cent of GDP (Gross Domestic Product) and a minimum growth in the volume of exports of 12 per cent. The Seventh Plan is estimated to have achieved a growth rate of 5.3 per cent only and ended with a savings rate of 20.5 per cent.

According to the Approach Paper, the development patterns and processes have to be

explicitly oriented, enabling everyone to have adequate employment. It also seeks to make provision for minimum desirable requirement of food, clothing and shelter as also access for all to educational and other social services besides child care. Meaningful development, it says, will ensure mobilising the skills, strengthen the creative capabilities of the masses and secure their active participation.

## Right to Work And Employment

The right to work, which constitutes the centrepiece of the reoriented planning, implies a full employment strategy. As part of it, the state should undertake to guarantee employment for enforcing a minimum wage in the rural and urban areas. This could be done by ensuring even spread of growth all over the country and among all sections of the population. Also this growth should be able to absorb the increase in labour force and backlog of unemployed in different parts of the country. The problem, according to the Paper, is primarily one of tackling underemployment in rural areas, though the problem also exists in urban areas, of course less in magnitude and different in character. The Paper sets before itself a target of, on an average, three per cent rate of employment in the next decade.

In order to achieve full employment, the pattern of investment has to change from capital-

intensive to labour-intensive, except in well-identified areas of infrastructure, and high-tech industries. In rural areas, responsive and responsible elected Panchayats are envisaged as the instrument of change.

The Approach Paper suggests that the process of democratic decentralisation should be completed within the first year of the Eighth Plan. It also suggests that in order to make the elected bodies truly representative, these institutions and their management committees should have adequate representation of women and vulnerable sections of society, such as scheduled castes and scheduled tribes.

The magnitude of poverty and unemployment in urban areas may seem small in comparison with that obtaining in rural areas, but the phenomenon of the homeless, the slum and pavement dwellers and of the educated unemployed presents a special set of problems. It is also essential to check the flow of the unemployed from rural areas to big cities so that social tensions associated with such migration are eased. To tackle this situation, it is necessary that small and medium towns are developed all over the country and their linkage with adjoining rural areas are strengthened. These towns would need a comprehensive programme of investment, marketing facilities, transport and basic municipal services.

According to the Paper, the proportion of development outlays on schemes benefiting the rural population must be significantly raised, the target being 50 per cent. A conscious effort, therefore, has to be made to gear such investment to expanding the bases of the rural economy. Investment must also help improve the facilities for housing, education, health, child care and other essential services, which have a bearing on the quality of life, the population growth rate as well as the productivity of the rural people.

### Agriculture

A development strategy oriented to the needs of the poor and the unemployed and the general increase in population calls for

acceleration in the overall growth rate of agriculture to meet the growing needs for food and fibre. This is also necessary to step up agricultural exports. The required expansion in output will need to be achieved through greater attention and resources being devoted to the development of rainfed tracts which constitute 70 per cent of the country's cultivated area. This would be done by making more effective use of irrigation facilities, both existing and newly created, to realise full potentialities for higher yield and maintaining a continuous flow of economically viable improved techniques. Besides, emphasis will be laid on more equitable access to resources and inputs, as the delivery system for farm inputs, including credit, needs to be improved. Attention needs to be given to encouraging, as widely as possible, diversification of agriculture into higher value-adding and more remunerative enterprises, such as horticulture, agriculture, poultry, fishery, dairying and animal husbandry. Greater efforts at strengthening marketing and agroprocessing facilities will be essential to support the process. Also, industry must be encouraged to forge effective links with the large and growing agricultural economy.

Agricultural price policy during the Eighth Plan will seek to protect farmers from wide price fluctuations. It will also ensure that the price which they receive gives them adequate profits.

### Industry

Rapid industrialisation continues to be one of the major concerns of the planning along with accelerated agricultural development. The objectives are rapid increase in gainful employment, balanced regional growth, sustained advance in productivity with technological dynamism and achievement of international competitiveness, in selected sectors. Industrial policy aims at mobilising country's productive forces and entrepreneurial energies by reducing bureaucratic controls. Simultaneously, measures are to be initiated for progressively lowering the level of effective protection and increasing competitiveness of the Indian industry so that the consumer has access to goods of quality at reasonable prices.

The government's policy towards small scale industry, both traditional and modern is to be reviewed in the light of experience of the past three decades. Also a review to ensure that protection meant for traditionally labour-intensive industries is not abused by producers, large and small, is therefore, high on the agenda.

While public sector will continue to play a leading role in the economy, there are areas where greater private sector involvement or participation could be considered on a selective basis. The offering of shares of public enterprises to workers and the public, while retaining government control, could be considered as a measure of raising resources and improving performances. At the same time, greater efficiency of public to be ensured. Besides, an accountable management is essential, though it must have autonomy. Labour relations must be based on workers' participation and concern for productivity.

The thrust has, therefore, to be towards exports in order to reduce dependence on external resources. This would call for a major effort towards upgrading technology, increasing the competitiveness of the industry and exposing indigenous producers to external competition.

### Infrastructure

An improvement in the supply of infrastructural facilities, particularly energy and transport, is necessary for the development of both agriculture and industry. Measures to reduce consumption of oil and oil products in order to increase the fuel efficiency of power generation and introduction of more energy-efficient production technology (e.g. in respect of fertilisers) has to be pursued vigorously. In the transport sector, the railway network needs to be augmented and modernised to carry a substantially larger volume of both passenger and freight traffic. The road network is necessary for opening up the rural countryside, besides having a high employment potential. The public transport system, especially in major cities, needs to be expanded and improved as a part of

the larger policy of discouraging private transport in the interest of better energy conservation.

### Social Development

The paper envisages a special role for women in the scheme of decentralised area planning and mobilisation of local skills and resources. They will be encouraged to mobilise themselves to join cooperatives, trade unions, associations and other democratic organisations with a view to realising their full potential for development. Maximum resources will be directed towards releasing the productive and creative energies of rural women so that they become equal partners in socio-cultural transformation of the society.

A strategy for the development of scheduled castes should lead to a programme that effectively liberates them from their disabilities. Among the programmes that call for priority attention, is conversion of the irrigable dry lands owned by them into wet lands through provision of bore wells and other facilities. For artisans, provision of local infrastructure, including upgradation of skills and direct links with credit institutions and markets, has been considered to be essential. Scavenging calls for putting an end to it. A major programme of education and public health for *dalit* women and girls needs to be launched. Also, effective measures for relief and rehabilitation of scheduled tribe families, whose lives and environment have been disrupted as a result of mega projects in irrigation, power and transport need be taken.

Improving the quality of human resources through emphasis on the containment of population growth and through a major overhaul of the educational system in order to achieve the goal of elimination of illiteracy by the end of 1990s, are among other goals set before the Plan. Further, a restructuring of the system of health and nutrition with a view to raising the level of living and quality of life is also called for. Education has to be made less of a passport to privilege and access to white collar jobs and more of a means to enhance the capabilities of people as citizens and producers.



The health care system needs to be enriched by using simple, inexpensive methods and remedies derived from traditional systems. In higher secondary schools, situated near hospitals, para-medical courses could be introduced, utilising the facilities available at these hospitals. The strategy for population control and family planning needs to focus on women's status, female literacy and control of infant mortality, as more effective and enduring methods of controlling birth rates are required.

### Fiscal Measures

The Approach Paper stresses the need for enforcing strictest possible economies in government expenditure, particularly of non-development nature, reducing dependence on borrowings (internal and external) and generating more resources through better tax collection and plugging leakages, etc. Simple tax laws without numerous exemptions, together with an efficient tax administration, free of outside interference, are essential.

The policy of requiring public enterprises to float bonds in the open market is a step in the right direction. But this alone may not ease the burden on the budget unless the enterprises become more efficient and are able to cover their costs fully. There is a strong case for diverting the public sector of chronically-losing enterprises. As a part of its strategy, the Eighth Plan has to aim at strengthening institutional infrastructure for exports, such as Export House and Export Promotion Councils and eliminate procedural bottlenecks. Rationalisation of incentives, speedy delivery of raw material, equipment and components, indigenous or imported, and promptness in provision of export assistance has also to form part of the strategy.

The trade policy needs to be fashioned to meet the growing challenge of protectionism. Enhancement of trade and economic cooperation among developing countries must continue to be a major aim of our economic policy.

To sum up, the Eighth Plan Approach Paper focuses primarily on major strategic shifts in terms of objectives and instruments of planning, rather than on quantitative projections.

## HIGHLIGHTS

### EMPLOYMENT

- ⊛ Central thrust of the Eighth Plan.
- ⊛ Endeavours to guarantee right to work for every citizen.
- ⊛ 3% annual rate of increase in employment over the next decade.

### GROWTH RATE

- ⊛ 5.5% growth in GDP which depends on an increase in savings rate to 22 per cent and an inflow of foreign resources of 1.5 per cent of GDP.

### DECENTRALISATION

- ⊛ Responsibility for development programmes to be transferred to elected representatives of local government bodies.
- ⊛ Process of democratic decentralisation to be completed within the first year of the Eighth Plan.
- ⊛ Elected panchayats to have adequate representation of women and vulnerable sections of society.

### RURAL DEVELOPMENT

- ⊛ Proportion of outlay on schemes benefiting the rural population to be raised to 50 per cent.
- ⊛ Investment to help improve facilities for housing, education, health, child care and essential services.
- ⊛ Financial resources and staff involved in rural development to be brought under the local bodies.
- ⊛ Focus on rural development programmes to be on socially gainful work rather than on relief work.

### AGRICULTURE

- ⊛ Acceleration in the overall growth rate of agriculture to meet the growing needs of food and fibre and to step up agricultural exports.
- ⊛ Greater attention to be given to rainfed tracts.

✦ Expansion and improvement of irrigation to be the key ingredient of agricultural and rural development programmes.

✦ Improvement of existing and construction of new minor irrigation works. Stress on speedy completion of existing major and medium projects, rather than starting new ones.

✦ More equitable access to inputs and resources to be provided.

✦ Diversion of higher value-adding and more remunerative agriculture enterprises such as poultry, fishery, dairying and animal husbandry to be encouraged.

## INDUSTRY

✦ Rapid industrialisation to continue.

✦ Gainful employment, balanced regional growth, productivity with technological dynamism and international competitiveness in selected sectors to be major objectives of industrial policy.

✦ Country's productive forces and entrepreneurial energies to be mobilised through industrial policy reforms. Bureaucratic controls to be relaxed by laying stress on non-discretionary controls.

✦ Measures for lowering level of effective protection and increasing competitiveness to provide goods of quality to be initiated.

✦ Special focus on village and small industries for balanced regional growth.

✦ Industrial policy to be reviewed to ensure that protection meant for traditional labour-intensive industries is not abused.

✦ Policy of liberal support from financial institutions and government to enterprises manufacturing products of low social priority, e.g. private automobiles, through capital intensive techniques, to be reviewed.

✦ Production of mass consumer goods, particularly through labour-intensive manufacture, to be promoted.

✦ Public sector to continue to play a leading role in economy, but greater private sector

involvement to be considered on a selective basis.

✦ Offer of shares of public enterprises to workers and the public to be considered as a measure of raising resources and improving performance.

✦ Emphasis on exports.

## INFRASTRUCTURE

✦ The Plan to pursue vigorously the need to reduce consumption of oil and oil-products, increase fuel efficiency and introduce energy-efficient production technology.

✦ Rail and road network need to be augmented.

✦ Public transport system in major cities to be expanded and improved.

## SOCIAL DEVELOPMENT

✦ Women to be accorded a special role in the scheme of decentralised planning.

✦ Strategy to be evolved for the development of scheduled castes to liberate them from their disabilities.

✦ A major programme of education and public health for *dalit* women and girls to be launched.

✦ Effective measures for relief and rehabilitation of Scheduled tribe families to be undertaken.

✦ Condition of minorities to be improved by raising educational levels through employment generation and promotion of specialised skills and crafts.

✦ Health care system to be enriched by using simple, inexpensive methods and remedies derived from traditional systems to attain the goal of "Health For All by the Year 2000".

✦ Paramedical courses to be introduced in higher secondary schools situated near hospitals.

✦ Focus of family planning programme to be on status of women, female literacy and control of infant mortality.

- ⌘ Eighth Plan to insist on development programmes being environmentally sustainable.

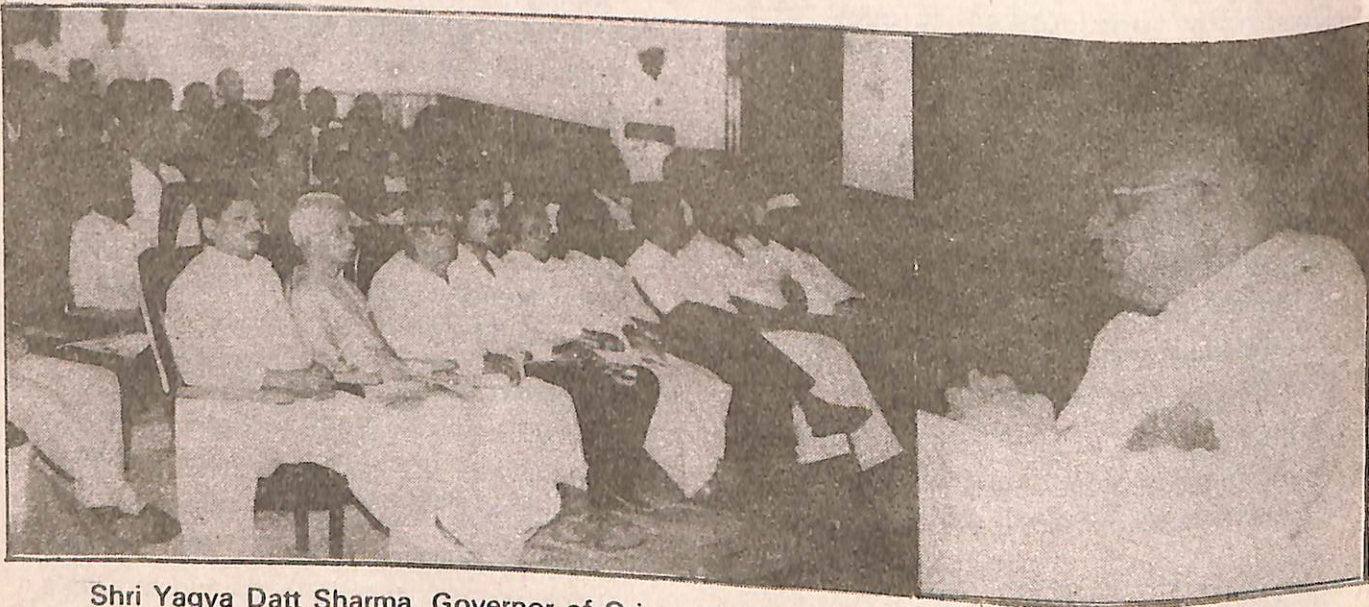
#### FISCAL MEASURES

- ⌘ Stress to be laid on strictest possible economy in governmental expenditure, particularly non-developmental, reducing dependence on borrowing and generating more resources through better tax collection.
- ⌘ Fiscal policy to aim at larger enterprise surpluses and review of subsidies.

- ⌘ Need for divesting public sector of chronically-losing enterprises.

#### EXPORT AND INTERNATIONAL TRADE POLICY.

- ⌘ Greater attention to be paid to expanding exports of labour-intensive items.
- ⌘ Diversion of exports to software and other skill-based services to be resorted to.
- ⌘ Institutional infrastructure for exports, like Export House and Export Promotion Councils to be set up.
- ⌘ Enhancement of trade and economic cooperation with developing countries to be a major aim of the economic policy.



Shri Yagya Datt Sharma, Governor of Orissa addressing the 37th All India Co-operative Week at Soochana Bhawan, Bhubaneswar on November 20, 1990

# Changes in Forest Cover in Orissa

Arun K. Bansal

## 1. Introduction :

Forests provide a valuable resource base for socio-economic development of any nation. One outstanding characteristic of the forest resource is its renewability which has two important consequences. First, through science and management its long term supply can be influenced making it almost inexhaustible. Second, because supply can be manipulated, long term demands on forests, in respect of the diverse variety of forest products ranging from fuel wood to food, from small timber for rural household to timber for national requirements and industrial raw materials, are likely to increase compared to the fixed supply of non-renewable resources. In addition, the green vegetation works as a vast industry to replenish the Earth's atmosphere with life gas, oxygen and provides protective cover for soil and water conservation, and thereby influence our environment to a great extent and keep it inhabitable.

However, in spite of being such a unique resource, forests are often missed by societies and communities only when they seem to be or are nearly gone through neglect or ignorant diversion to other uses, particularly for cultivation or over-exploitation under the myth of inexhaustibility. Understandably, the depletion of forests and loss of tree cover is causing anxiety and distress all over the world. Growing awareness has resulted in complete reversal in

attitude of the administrations from indifference and complacency to alarm and even hysteria. A stop everything syndrome, however, may be as damaging and counter productive as an attitude of everything goes. It is in this context that, the changes in forest cover in Orissa are discussed in this paper.

## 2. The Forests :

The forests of the State are classified in to three main types according to Champion and Seth's classification of forest types. The Northern Tropical Semi-evergreen Forests are usually met with in the proximity of the coast and on the plateau above 700 mts. particularly in the moist valley. The Northern Tropical Moist Deciduous Forests are more extensive and commercially most valuable forests of the state, and occur in continuation of the Semi-evergreen type. The tidal or the mangrove forests of the coastal areas found in Kujang and Kanika zamindari are considered to be a seral sub-type of this type. The Northern Tropical Dry Deciduous Forests occur in the west where conditions are appreciably drier. Natural occurrence of teak with its usual associates is the characteristic feature of this type though its incidence is not very extensive. In addition to these three main types, various subsidiary types and seral types occur in limited extent due to various edaphic, biotic and local climatic factors. The state is the Southern most limit of Sal which

completely disappears from Malkangiri in Koraput district and the Motu-Malkangiri area, though rich in valuable miscellaneous species contains no Sal. It is also the meeting place of Sal and Teak. Natural teak occurs in Kalahandi, Bolangir, Koraput districts side by side with Sal.

### 3. Changes in Forest Cover :

For better understanding one must be very clear as to what do we really mean by change in forest cover ? Whether it is the change in the land area designated as forests (quantitative change) or is it the change in the actual tree crops (qualitative change). Further, since Forest Department is primarily charged with the responsibility of managing the forest resources, are we to consider the forests under the management of the Forest Department only or should we talk about all the forest resources irrespective of the agency owning and/or managing it ? For a holistic review, it is only appropriate to consider both quantitative and qualitative changes of forests irrespective of ownership and/or managing department.

#### 3.1. Recorded Forest Area :

Recorded forest area of the state, according to the last Annual administration Report of Forest Department, was 59,963.30 Sq. Kms. in the year 1980-81 which computes to 38.45 per cent of the total geographical area of the state. The per capita forest area 0.23 Ha., based upon 1981 population, is more than double the national average of 0.11 Ha. 48 per cent of the total forest area is classified as Reserved Forest (RF). Demarcated Protected Forests (DPF) and Undemarcated Protected Forests (UDPF) constitute 28 and 24 per cent respectively. A very small portion (0.03 per cent), being the area occupied by Forest Department buildings, roads, depots etc. is Unclassed Forest (UF)<sup>1</sup>. RFs are provided highest level of legal protection where 'every thing is prohibited unless permitted'. DPFs and UDPFs, legally termed as protected forests, on the other hand stand on a completely different ground with 'every thing permitted unless prohibited'.

Figure 1, representing changes in forest area in the state since 1945, reveals three very prominent changes in the total recorded forest area of the state, in the years 1948-49, 1957-58 and 1979-80. 1948 was the year of merger of princely states. Consequently, the forests in the ex-princely states got vested in the State Government. Subsequently, in 1957 the zamindari system was abolished and the ex-zamindari forests also came to be vested in the State. These administrative changes resulted in sudden increase in the reported forest area of the State. However, the ex-zamindari forests, approximately 18,000 Sq. Kms., initially remained under the control of the Board of Revenue and were transferred to the control of the Forest Department in 1960-61. With regard to the decrease in the forest area in the year 1979-80, the Annual Administration Report of Forest Department for the year 1979-80 observes "a correct assessment of the actual area of the existing forests was taken up during the year and it was noticed that 7,419.82 Sq. Kms. of forests are actually not available in the field which has been cleared over the years, but was not reconciled previously". As a matter of fact, a sizable proportion of the forest lands have been and still remain undemarcated (UDPF). The area of these forests is approximate as it is not based upon proper survey.

#### 3.2. Actual Forest Area :

Annual Administration Report of the Forest Department for 1967-68 mentioned that about 40 percent of the recorded forest area was unproductive, indicating that all forest lands do not support dense vegetation. Actual vegetation status of the forest lands can be known from the stock mapping done for preparation of Working Plans of respective areas. However, since all the recorded forests areas are not covered by working plans<sup>2</sup> a complete picture is difficult to be obtained from Working Plans.

The advent of satellite remote sensing technique<sup>3</sup>, has made it possible to assess actual forest cover irrespective of legal status of the lands through interpretation of spectral signatures of the Earth's surface as recorded by

specially designed sensor systems on board satellites orbiting the earth at around 800 kms. altitude. Using remotely sensed data of appropriate season at a suitable scale, and employing right interpretation methodology with adequate ground truth, it is possible to estimate the total forest area with a very high accuracy and the forest area can be classified into two/three density categories with reasonable accuracy.

Various estimates forest areas of the State are reproduced in Table 1. NRSA report, for both the periods, were later found to have underestimated forest areas due primarily to very limited ground verification, use of satellite data of inappropriate season in some cases. The initial assessments made independently by the Forest Survey of India (FSI) for the year 1981-83, as a part of National Vegetation Mapping, were reconciled with the NRSA estimates. According to the reconciled figures total forest area of the State was 53,163 Sq. kms. (34-13 percent of total geographical area of the State) which is 88-66 percent of the recorded forest area. Only half of this area was found to have density more than 40 percent. In the 1981-83 assessment data employed were acquired in October—December 1981 through Landsat MSS. In a recent assessment FSI used satellite data of October—December, 1987 acquired by an improved sensor system, namely Landsat TM. This later estimate puts the forest area of the state to be 47,137 Sq. Kms. recording more than 10 percent decrease in six years. Although the later assessment is technically likely to be different from the earlier assessment, due to improved sensor system and larger scale of data, the report mentions the loss of forest cover to be real.

#### 4. Causes of Change in Forest Cover :

Many factors are responsible for qualitative and quantitative changes in the forest cover in the State. Apart from diversions of forest lands for various other uses including cultivation, roads, dams, industries etc., many other factors, such as, fuelwood—demand and supply gap,

overgrazing, encroachments, shifting cultivation cause degradation or depletion of the forests without associated change in the recorded forest area.

#### 4-1. Diversion of Forest Area :

Competition for land between forest and agriculture is practically as old as agriculture itself. Growth in population has necessitated conversion of forests into cultivated-lands, and for habitations and pastures. Advancement of civilizations also necessitated land for roads, railways, reservoirs, power lines and industries etc. Land requirements for different uses were routinely met with by clearing forests with scant regards for the significance of protective functions of forests and under the belief that forests were inexhaustible. The 1952 National Forest Policy recorded concern about indiscriminate extension of agriculture, under the provisions of the old policy which provided for relinquishment of forest land in favour of cultivation wherever effective demand existed. The policy stressed upon the need for balanced and complementary land-use. However, in spite of the specific declaration that the country should aim at maintaining one-third of its total area under forests, forest lands continued to be diverted to non-forestry uses. Between 1951 and 1983, 1,384 Sq. Kms. of forest lands were diverted for various purposes including cultivation, industries, irrigation projects in Orissa. Although the area officially disforested for cultivation, was only 83 Sq. Kms., increase in net area under cultivation, according to Agricultural Statistics, was 4,800 Sq. Kms. Additions to cultivations were mostly in the neighbourhood of existing agricultural lands. Fresh areas which were brought under plough almost invariably supported tree growth, although they were not necessarily classified as forests. Recorded as culturable wastelands or tree lands and miscellaneous growth, these areas used to meet the requirements of villagers in respect of fuelwood, small timber and fodder to a great extent. Gradual elimination of these lands resulted in manifold increase in the pressure on remaining forests. One of the aims

of SIDA aided Social Forestry Project is to bring back these fuel-fodder reserves close to habitations.

With the enactment of Forest Conservation Act, 1980, a Central Act for conservation of Forests, any order for diversion of Forest Land for non-forestry use requires prior approval of the Government of India. The act, made more stringent by an amendment in 1988, has yielded desired results and the rate of diversion of forest lands has reduced significantly.

#### 4.2. Fuelwood—demand and supply gap :

In the ex-princely states and ex-zamindaries there were large areas of forests from which villagers used to draw their requirements of fuelwood, small timber and other forest produce and on which the village cattle used to graze. These forests were hardly under any scientific management. Consequently, at the time of merger these forests were in seriously deteriorated condition. With depletion of primary source of forest products, villagers increasingly turned towards the nearby RFs/PFs for their requirements. Further, as explained in para 4.1, gradual conversion of lands supporting miscellaneous tree growth into agricultural lands resulted in increased pressure on forests for fuelwood, small timber and fodder. According to 1987 FSI report per capita annual consumption of fuelwood in Orissa range from 0.25 to 0.4 and 0.4 to 0.5 tonne in urban and rural areas respectively. As such at 1981 population, annual fuelwood requirements of the state works out to 10—12.5 million tonnes. The recorded production has hardly exceeded 10 per cent of the demand. A wood balance study, recently conducted by Operations Research Group (ORG) for the State, for the Directorate of Social Forestry, Orissa, estimates total fuelwood requirement to be 16.40 million tonnes (equivalent to 24.60 cum.) in 1989, against which the recorded production was merely 1.14 lakh cum. Needless to say that the continuing gap between the actual consumption and the legitimate production of fuelwood was filled either by unauthorized removals from the forests

causing untold depletion of the forests particularly in the vicinity of habitations, or by diverting significant quantities of animal dung from agricultural fields to hearths. Quoting NCAER, Barnard and Kristoferson have reported that 50—100 kilograms of dung is burnt per capita per year in the State. Burning of dung and/or agricultural residue causes the inexorable cycle of land degradation :

*low forest productivity—greater pressure for fuel and food—burning agricultural residue/dung—low level of organic matter in soil—depleted soil quality and soil erosion.*

Furthermore, fuelwood scarcity and rising population have trapped the country into a vicious circle. The excess cut depletes the forests and reduces supplies while the rising population increases the demand. The doubly enhanced gap between demand and supply leads to destruction of much more forests. Commenting upon the results of fuelwood supply position, 1987 FSI report records thus "the imbalance between demand and production of firewood is the single cause which has contributed most to the depletion of forests in the country".

Shortfall in timber production, 1.07 Lakh cum against a demand of 15.42 lakh cum, as estimated by the wood balance study by ORG, aggravates the depletion of forests manifolds.

#### 4.3. Overgrazing :

Live stock forms an integral part of rural life in India. Cattle, cows and buffaloes are kept by most families for milk, dung (cooking and manure). The cattle generally graze in village forests, gochars and neighbouring forests. Stall feeding is not very common, though cutting of grasses and lopping of trees supplement grazing in urban and semi-urban areas. Crop stubble and agricultural residues are often used in urban as well as rural areas. Grazing *per se* is not inimical to forest growth, in fact light grazing may improve regeneration conditions, particularly in moisture type of forests. Forest lands are, however, under increasing pressure

as population growth necessitates new lands for cattle grazing and growing food crops. During last forty years the cattle population in Orissa has increased almost ten fold resulting in overgrazing of Village Commons and Gochars, and tremendous pressure on the forests. At an average grazing carrying capacity of forests computed at 60 cow units<sup>4</sup> per 100 hectares in the country, the forests of the State can at best support a cattle population of three million units. The carrying capacity will be reduced appreciably if the area under National Parks and Wildlife sanctuaries is excluded. Against this, the population in 1982 was 19 million cow units.

1894 National Forest Policy argued that although strict preservation and periodical closure, or total prohibition of grazing will result in the largest yield both of fuel and fodder in the form of hay, but this is of small avail if the people will not utilize the increased supply in the form it is offered to them. The 1952 policy however, suggested five cardinal principles for the formulation of grazing policy providing for regulation of grazing both with regard to time and place, and numbers for efficient forest management. The 1988 policy also calls for regulation of grazing in forest areas with the involvement of community, full protection to young plantations and regeneration areas. Notwithstanding the policy, on the face of increasing cattle population successful implementation of these pronouncements is very difficult, if not impossible. What is required is integrated area specific cattle development programme effectively dovetailed with programme for creation of adequate fodder reserves.

#### 4.4. Encroachments :

The conditions created due to degradation of forests by unauthorized removal of fuelwood and overgrazing are further aggravated by encroachments. Attempts to encroach government forest lands has been a regular phenomenon since independence. The committee for Review of Rights and Concessions in the Forest Areas in the country observed : "among other things, repeated

regularization of forest encroachments was largely instrumental in spreading the pernicious menace over new areas in the hope that encroachments would be settled in future". Approximately 525 Sq. Kms. of forest areas stood encroached in 1985 in the State. Stating that the encroachments on forest lands has been on the increase, the present National Forest Policy pronounced that this trend has to be arrested and effective action taken to prevent its continuance and that the existing encroachments should not be regularized.

#### 4.5. Shifting Cultivation :

Shifting cultivation, also known as Podu<sup>5</sup>, is another major cause of degradation of forests in the State. It is generally practised in the hill tracts (slopes greater than 30 per cent) of Koraput, Ganjam, Kalahandi, Keonjhar, Sundargarh and Sambalpur districts. Cultivation is normally done for 2-3 years after which the area is left fallow for 8 to 12 years to recoup. Growth of population depending upon this type of cultivation has resulted in reduction of fallow period due to which the areas do not get sufficient time for replenishment of the fertility. This causes decrease in production per unit area forcing the tribals to bring more area to its fold every year. Resulting deforestation is followed by soil erosion, floods and decrease in fertility of land. Slash burning sometimes spreads fires beyond the shifting fields resulting in considerable damage to neighbouring forests. Although the Government policy aims at weaning away the shifting cultivators from this practice through persuasion and making provisions for permanent cultivation and alternative employment, rehabilitation of affected area, efforts in this regard have not yielded the desired results.

In the absence of any specific survey, no reliable statistics about the total forest area effected by shifting cultivation is available. Various studies on the subject have invariably put Orissa in the list of the states where the problem is acute. One of the earliest studies, made by Dr. H.F. Mooney in 1951, estimated that about one fifth of the total area of the State was affected by Podu involving approximately



one million tribal people who depended on it. The Commissioner for Schedule Castes and Schedule Tribes in his report for the year 1961 calculated that 66.6 per cent of the total tribal population of the State practised shifting cultivation. Food and Agricultural Organization estimated that 6,220 Sq. Kms. of closed and 10,360 Sq. Kms. degraded forests are affected by shifting cultivation in the State. According to the report of the Planning Commission's 'Task Force on Shifting Cultivation' Orissa accounts for 53.21 per cent of the total area shifting cultivated annually, and 60.81 per cent of the total affected area in the country. Annual cultivation area, 5,298 Sq. Kms., is about 9 per cent, and affected area is about 45 per cent of the total recorded forest area of the State. A recent aerial survey puts the Jhum area in the State at 6,622-440 Sq. Kms. Most of the affected areas are greatly depleted and being situated on hill slopes cause considerable damages characteristic of this uneconomic and wasteful practice.

### 5. Productivity of Forests :

During 1980-81, wood production from the forests of the State was reported to be 1.1459 million m<sup>3</sup>. Based upon the recorded forest area current productivity of the forests works out to 0.19 m<sup>3</sup>/ha/annum which is lower than the all India average of 0.28 m<sup>3</sup>/ha/annum. The actual average annual productivity, based upon the actual forest area and making allowance for unrecorded wood production, will be considerably higher than 0.19 m<sup>3</sup>/ha. Using the Peterson's CVP index, potential productivity of the forests of Orissa has been computed to be 7.39 m<sup>3</sup>/ha/annum. This theoretical potential productivity is not very realistic due to the fact that the index does not take in to account the effect of soil, a very important factor effecting productivity, and most soils have degraded to such an extent that are not likely to recover to ideal conditions envisaged by Peterson. Field inventories carried out by FSI covering around 40 per cent of the country's recorded forest area by March 1987, reveal that with best possible protection and forest management, annual production from Orissa forests will be

1.13 m<sup>3</sup>/ha. These various estimates clearly reveal that the current annual production from the forests of the State is far below their potential productivity and that there is ample scope for enhancing the annual wood production to bridge the widening gap between demand and supply. Major initiatives required in this direction include reforestation of depleted forests (such as the fallowed shifting cultivation and other areas practically devoid of vegetation), rehabilitation of degraded forests (approximately 40 per cent of the total forest cover), and effective regeneration and post felling operations in the harvestable/harvested areas. Success of these programmes will necessitate much higher level of investment coupled with area specific planning and goal oriented monitoring.

### 6. Conclusions/Suggestions :

Above discussion brings out two points which need careful consideration. One, the forests are renewable natural resources which provide essential goods and services to our predominantly agrarian communities. They have been fighting an almost losing battle, for a share in limited land resource, with other uses which are thought to be more important for development. Forests have also suffered serious depletion due to relentless pressure from exponential increase in human and cattle populations. Two, the present system of obtaining information about nature, extent and location of forest resources of the state is far from being adequate.

It is needless to emphasise that forests ought to be managed as a naturally renewable resource for the benefit of not only the present population but also of future generations, keeping in mind that we have not inherited the earth from our parents but have borrowed it from our children. Consequently, forests are to be managed so as to legitimately meet the demands of the people without jeopardising the options of the future generations. This necessitates that the resource should not only be developed but conserved also, leading us to the concept of sustainable development. Solution to land

problem lies in integrated use of land according to its capability. Land being a scarce and limited resource, should not be allowed to be wasted. Whereas good forested lands should not be diverted for other uses, the area which is devoid of vegetal cover should be put to the most productive use following a well defined and area specific long term approach. The existing forests have to be lifted from the low investment—low yield production system and their productivity has to be enhanced through adequate investments. Financial allocation to forestry must be guided by what it would cost not to invest

rather than what it contributes in terms of rupees.

To be able to take conscious management decisions and resource monitoring for sustainable development, as outlined above, need for evolving a dynamic forest resource information system, using modern tools, can not be over emphasised, since without adequate reliable data about a resource, success of any well planned and good intentioned policy seems doubtful, particularly in the present adverse demand-supply situation.

## RECORDED & ACTUAL FOREST AREA

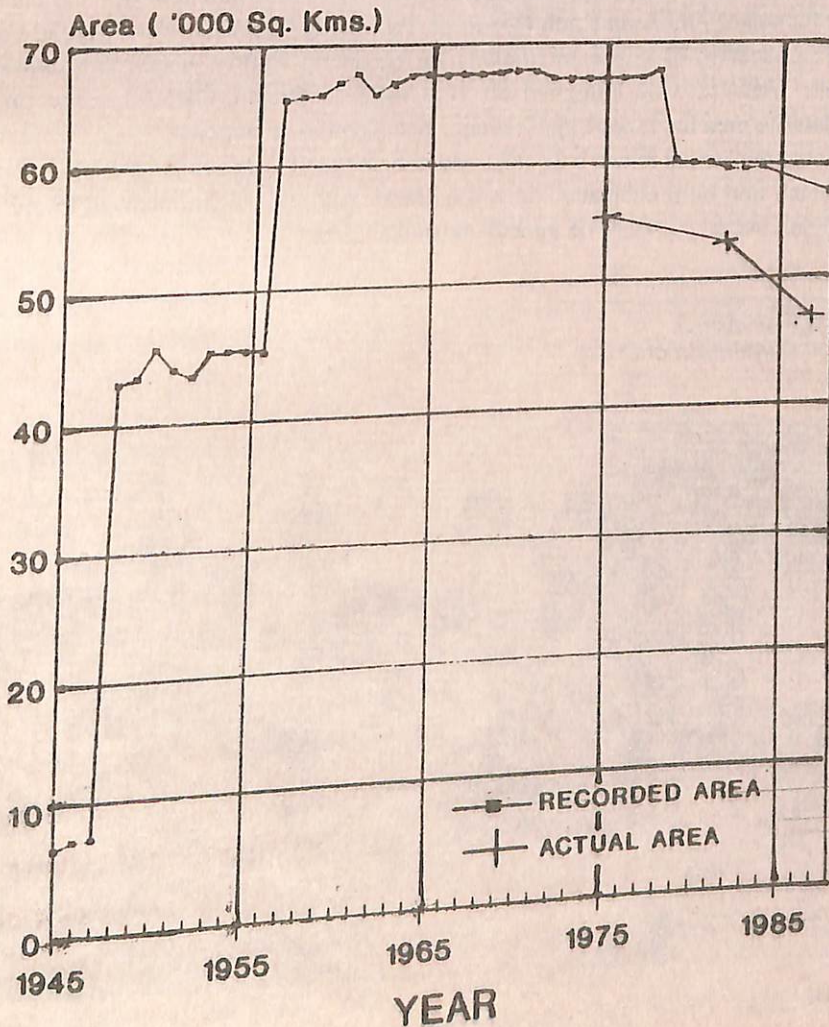


TABLE 1

## Actual Forest Area

Data source	Forest area (Sq. Kms.)				Reference
	Closed	Open	Mangrove	Total	
MSS, 1975—77	34,350	20,850	..	55,890	FAO, 1981
MSS, 1972—75	37,320*	10,829	234	48,383	NRSA, 1983
MSS, 1980—82	28,812*	10,386	227	39,425	NRSA, 1983
MSS, 1981—83 (1981)	28,573=	24,391	199	53,163	FSI, 1987
TM, 1985—87 (1987)	27,561=	19,384	192	47,137	FSI, 1989

\* Crown density more than 30 per cent

= Crown density more than 40 per cent

## REFERENCES :

- 1 The present forest area is 57,745.42 Sq. Kms., comprising of 27,630.04 Sq. Kms. RF, 16,087.02 Sq. Kms. DPF, 14,007.81 Sq. Kms. UDFP and 20.55 Sq. Kms. UF.
- 2 As on 1.4.1989, 63.39 per cent of the recorded forest areas were covered under working plans.
- 3 1972, the year of launch of American Earth Resource Technology Satellite, later named Landsat, marks the beginning of the application of space technology for obtaining Earth's resource information. First Indian resources satellite, IRS—1A was launched on 17.3.1988. In Orissa, ORSAC is the primary agency for interpretation of satellite data for various applications, including forest mapping.
- 4 One buffalo is treated equivalent to two cow units and one sheep or goat is equivalent to half cow unit.
- 5 It is essentially 'slash and burn cultivation' in which standing trees are cut, allowed to dry and burnt on site followed by cultivation using practically no agricultural implements.

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Shri Biju Patnaik, Chief Minister of Orissa discussing with Russian Ministers on Petro-Chemical Projects in Orissa Secretariat on November 17, 1990

# The Bhitarkanika Wildlife Sanctuary

Dr. S. K. Kar

This paper presents a case history on the Salt-water Crocodile Project and Sanctuary Development in rural Orissa. To save the most endangered salt-water crocodiles, a project has been initiated by Government of India, FAO/UNDP through the Government of Orissa in Bhitarkanika Wild-Life Sanctuary since mid 1975. This "rear and rehabilitation project" helps the local people to involve themselves in multifarious ways. Gradually, the local people are showing their keen interest and enthusiasm for the progress of the project. The disadvantage is very much negligible in comparison to the advantage that the people are getting through this project. The success of the project and development of the sanctuary more or less depend upon the help and co-operation of the local people.

During the post World War period, the population of world's crocodilian species become seriously depleted throughout their range, due to exploitation of their habitat and indiscriminate killing for their valuable hides. Saltwater Crocodile (*Crocodylus porosus*), once abundantly available in the Bhitarkanika, Ex-Zamidary area was not an exception. The position of India's three crocodilian species became so depleted around 1970s that, Government of India requested the United Nations Development Programme to assist in establishing and developing an all India project for 'rearing and rehabilitation' of the three Indian species. In 1974, FAO/UNDP appointed

Dr. H. R. Bustard as FAO expert on Crocodiles and Seaturtles, to survey and to report on the position of Saltwater Crocodiles along with other two crocodilian (Gharial and Mugger) species. During the course of his survey, Dr. H. R. Bustard surveyed the Bhitarkanika—India's one of the good remaining habitats of the Saltwater Crocodiles. In his report to FAO (1975), he expressed his deep concern about the future of the Saltwater Crocodiles in Orissa as well as in other remaining habitats in India.

In 1975, Government of India through Government of Orissa Forest Department started the Saltwater Crocodile 'rearing and rehabilitation project' in Bhitarkanika to save the crocodiles from further depletion.

To ensure future success of the Crocodile Project, the entire habitat, an area of about 672 Sq. Kms., was declared a sanctuary on 22nd April 1975. This Sanctuary was named as Bhitarkanika Wildlife Sanctuary.

Wild laid Saltwater Crocodile eggs were collected from the forest blocks of Bhitarkanika Sanctuary for project hatchery incubation at Dangmal. Young ones were reared in the pools constructed and designed specifically to house them as per size and age. In the beginning of the Project, only a clutch of 48 eggs was collected in the year 1975 and in subsequent years 6-7 clutches were being collected and the collection of eggs has now increased to 300.

1,050 young crocodiles of approximately 1-2 metre in length were released into the Bhitarkanika river systems to build up the most depleted population in the wild. These released ones are now being regularly monitored to know their survival, movement, migration and growth rate in nature.

At present more than 400 crocodiles (from hatchlings to 15th year age group including a white (Sankua) female crocodile) are being reared in sound husbandry conditions at the project for future release and captive breeding programme.

After inception of the Saltwater Crocodile Conservation, Research and Management Programme in Bhitarkanika, the illegal encroachment of forest land has been stopped. Due to sincere efforts of the wild life protection staff, the felling of forest growths for firewood and household purposes has been effectively controlled and fishing inside the Sanctuary has been totally banned. Remaining wild animals are increasing in their number and they are now safe from the hands of poachers.

As the Project is located close to the human settlement and moreover, there are 50 villages situated inside the Sanctuary, it is helping the people to understand and to educate themselves regarding the wildlife and its role for continued existence of human race. Gradually the people are becoming much conscious about the protection of the Wildlife, its remaining habitat (mangrove forest). Again, many blind-beliefs (folklores) deep-rooted among the rural people gradually decrease and are being replaced by the truths.

Since inception of the Project, the local people including women are being engaged for the development of the Project such as construction work of buildings and pools etc. and also for the Sanctuary development works. The people are showing their keen enthusiasm for progress of the Project as their economic standard has improved gradually.

Fish purchased from the local people to feed the crocodiles regularly is a great financial help to

the local people. At the beginning, it was found to be extremely difficult to convince the people to supply the fish for the crocodiles but their idea drastically changed and it proved a grand success for the Project. The number of children who are not going to school due to their poverty and also parents who never think for their education, are sending their children for collection and sale of fishes to the Crocodile Project. In a few cases, it has been learnt that in a family, more than three individuals are catching fish. The number of children supplying fish have now increased from '5' in the year 1975 to 65 in the end of the year 1989. Thus the Crocodile Project has provided the rural people a good local market as even a very small quantity and any trash fish (alive) is purchased for crocodiles with a reasonable price.

After ban of fishing inside the Sanctuary, the local people are much happy as they are catching the fish for their own food by thrownets which is less harmful for the crocodiles. But, before the declaration of the Sanctuary, very few local people were benefited as the fishermen were all from outside, mostly Bengali people from West Bengal. They were catching the fish and sending it outside the State, more particularly to West Bengal where it fetches a good market value. So, local people were deprived of catching fish for their own consumption.

The picturesque location of the Bhitarkanika Sanctuary—its mangrove forest criss-crossed by rivers, numerous creeks and nallas, with varieties of wildlife including the migratory birds is really a place for tourist attraction. Except a few officials and non-officials, a number of tourists-cum-wildlife lovers are deprived of coming into the Sanctuary due to lack of transport and communication facilities. The rural people are getting chance to come in contact with the persons visiting the Sanctuary both from India and abroad.

Rural people, at first, were showing their disinterest and negative attitude for the Project and the Sanctuary but as the days passed on with the steady progress of the Project, the

people are showing their interest and enthusiasm for further development of the Project and progress of the Sanctuary. Sometimes they grumble for a small problem i. e. at the time of harvesting of paddy crops the wild boars and deers migrate into the paddy field from

the forest and damage the crops. But this momentary, disadvantage is very small in comparison to the advantages they get through the Project and the Sanctuary throughout the year.

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Members of the Central Team after their visit of the flood affected areas of Ganjam district discussing with the Chief Minister in the Secretariat on November 15, 1990. Minister, Revenue & Excise and Minister, Rural Development were also present during the discussion.

# Two-Four-Two to Protect 2.5 Million Babies

*Mahendra Ved*

"Shishu Suraksha Diwas", a massive effort in the urban areas of the country for intensive immunization was launched on October 2, 1990. It is the beginning of the "two-four-two" programme, the numbers being the dates, October 2, November 4 and December 2 of this year, chosen for this special programme, to cover 2.5 million babies. It is perfectly possible to be cynical about this, and such other efforts, in this part of the year. The monsoon is just over, and the water borne diseases have left many dead and many more sick throughout the country. But the positive side is there, bright and glaring. The two-four-two aims at the health of children.

It is joint effort of the Union Health Ministry, the Rotary International and the Indian Medical Association, with the UNICEF taking active interest in the programme. The President, R. Venkataraman has stressed on this occasion that the role of the non-governmental organisations to mobilise and motivate the individuals is very crucial for this programme. An appeal for help has also been made by the Health Minister, Rasheed Masood, to "every person interested in child survival and development". Linking child survival with development is significant in that the former has become crucial for the matter. No amount of development can be meaningful in a society suffering from disease, and more so, if its children are not healthy.

The emphasis on children and their well being also becomes crucial in a country where 240 lakh children are born every year. Of these, twenty lakhs, over eight per cent, die before their first birthday. Many more are disabled for life for lack of proper medical care and immunisation.

The majority of deaths are due to Tetanus, Polio, T.B., Diphtheria, Whooping Cough and Measles. Immunisation is the answer to these diseases. Immunisation that is timely and effective.

This has been the strategy elsewhere in the world, to ensure that a child is disease-free even as it is born and grows up. The richer nations have achieved it all quite some time back. Even our more populous neighbour, China, has achieved complete immunisation in 1988. A country of India's size and resources, owes it to its children that they are disease-free and to the world community that it contributes healthy children.

The two-four-two aims at reaching out to the children in the cities. Why the cities only? Extensive immunisation programme has been underway for quite some time and results are positive. The two-four-two aims at giving quick thrusts on the programme, making it intensive. The cities are ideal for such thrusts. With growing urbanisation, most of it unplanned and haphazard, the cities require this special

attention. A child born and bred in slums can hardly be healthy.

The reference to China is significant. The society enforces health standards there and it is perfectly possible to ensure cent per cent adherence to social and medical endeavours. But in India, health is the personal prerogative of an individual and the family. The response has had to be voluntary, and thus, slow. The approach to health is traditional. And even though the grandmother's remedies hold good, new ideas have taken much time to percolate in a society where poverty and illiteracy dominate the scene.

The country's health planners, and the agencies engaged in implementing these plans have had a hard time tackling this delicate task. The race to achieve universal immunisation is far from won. An official review of the performance of the Universal Immunisation Programme, the UIP, shows that all the 452 districts have been covered. The UIP was launched in 1985 to give the necessary thrust to the on-going immunisation programme, with the target of achieving complete coverage by 1990-91. Thus we are close to the deadline.

The effort so far has helped in 82.8 per cent coverage of three vaccines—diphtheria, pertussis and tetanus, the DPT.

The statewide break-up shows that the coverage has been satisfactory in most states, with the sole exception of Assam, where the coverage levels have been below 50 per cent. The success is due to a systematic approach adopted in the urban areas, involvement of professional bodies and voluntary agencies, association of medical colleges in implementation and evaluation, building up of effective management information systems, close monitoring of adverse reactions and field-testing of samples or oral polio vaccine. The "cold chains", which are mobile or stationary store-house of vaccines ready to be administered, are also kept well-stocked and the quality of the vaccines monitored.

As a result of this coverage level, there is a significant drop in the incidence of diseases reported between 1987 and 1989. This is undoubtedly good, considering that communication and monitoring have improved.

(COURTESY : PIB)



Minister, Information & Public Relations and Tourism, Sports and Culture Shri Sarat Kumar Kar inaugurating the Orissa Day festival in I. I. T. F., Delhi on November 15, 1990 by lighting a candle. Director, Information & Public Relations is also seen in the photo.



# The Kalinga War that changed Ashoka

*Dr. Jagannath Mohanty*

It was 273 B.C. when Ashoka ascended the throne of Magadha, a kingdom in the northern India. But he was crowned after four years i.e. 269 B.C. Why such delay ? History tells us that Ashoka was a monster of cruelty. That is why he was known as "Chandasoka". He was over-ambitious. In order to satisfy his thirst for power, he was made the Viceroy of Taxila by his father. Since he was not satisfied with this, he became the Viceroy of Ujjain also.

Ashoka was not the first son of his father King Bindusar. But in order to capture the throne he killed his eldest brother. With a view to removing all the claimants he killed 99 brothers in a series of fratricidal wars. Due to this reason his coronation ceremony was delayed by 4 years.

Ashoka was known as a great emperor. His empire spread far and wide. But he was unhappy. A neighbouring Kingdom Kalinga (Orissa) a prosperous land remained independent. He was always thinking of annexing that country with his empire. He lost peace of mind.

The grandfather of Ashoka was Chandragupta Maurya who conquered lands from Hindukush to the Ganges and from the Himalayas to Karnataka. But he did not venture to conquer Kalinga. Ashoka's father Bindusar was equally strong. But he also did not aspire for launching war with Kalinga.

It was in 261 B.C. 12th year of Ashok's reign that he decided to conquer Kalinga. He asked his Generals to make all preparations for the war. No efforts were spared on this account.

Ashoka personally led the army and marched to Kalinga. He had an army of more than six lakhs and all the latest arms and ammunition of the time. On the whole, he invaded Kalinga with the military strength of an all-India empire.

The people of Kalinga were mighty warriors and loved their country more than their life. They fought against the invaders with utmost strength and sacrificed their life for freedom.

A fierce battle therefore lasted for many days at different places of Kalinga. But the major war was fought on the foot of the Dhauli hill on the banks of river Daya near Bhubaneswar. It was reported that water of the river Daya turned red with the blood of the wounded soldiers. At last the people of Kalinga lost the war.

History gives an account of the Kalinga war. How desperately the people of Kalinga fought for their motherland ! How fierce was the battle ! How terrible were the outcomes !

Ashoka in his Thirteenth Rock Edict wrote about the Kalinga War : "The Country of Kalinga was conquered when the King Priyadarshin, Beloved of the Gods had anointed eight years.

One hundred and fifty thousands were therefrom captured, one hundred thousands were slain, and many times as many died".

The horrible war was over. The battle field was covered with thousands of dead bodies. The wounded and dying soldiers filled the atmosphere with their crying and wailing sound of utter pain and woe. The children and women were weeping bitterly for the death of their near and dear ones. The tragic and ghastly scenes of the battle field filled the mind of emperor Ashoka with deep sorrow and regret. His heart was resounded with the agonised cries of the dying soldiers. He felt restless.

The restless Ashoka fought so many battles in his life. But he never felt so much anguish and pain in his life. The night advanced. The dogs and jackals fought among themselves. The owls raised awful sounds.

The Emperor came out of his tent in a hurry. He looked at the nocturnal sight of the battle field. The horrible sounds of the wounded and bereaved pierced his heart. The cruel and greedy animals were still fighting among themselves for flesh of the dead men and animals.

A moving lamp was visible at a distance. Ashoka became curious. He proceeded towards the battle field. He walked amid the heart-rending scenes. He felt suffocated.

The light came closer. The anguished emperor saw to his great surprise one Sannyasin. He was holding a lamp and a bowl of water. He was giving succour to the dying soldiers, nursing the wounded ones and consoling them all with sweet and sympathetic words. His face was radiating the rays of light and peace. He was calm and quiet.

Ashoka was moved with the service of the saint. As he came nearer the Emperor asked, "What are you doing here, O' Sannyasin".

The saint replied, "I am doing whatever possible on my part as a fellow man. But can I know who are you?"

The Emperor replied, "I am Ashoka, the mighty ruler of the vast Magadh empire".

The saint said, "Oh, mighty Emperor, You have won the battle. But at what cost ? Can you win the hearts of the people ? You have killed thousands of soldiers, You see, how many are dying and suffering from the bleeding injuries ! How many women and children have been made helpless ! Can you give life to any of them ! Can you give peace to any of the orphans and widows !"

Ashoka felt himself helpless. He was shocked and speechless.

The saint added, "Oh, King, You may conquer kingdoms. But you cannot conquer man. You can win the wars. But you cannot win the heart of the people. You can win the people only through love and peace. The way to love and peace is the path of dharma showed by Buddha, the Enlightened".

Ashoka was impressed by the gentle and loving words of the Sannyasin. He bowed his sword and kept at the feet of the Sannyasin. He bowed down before him and begged for his blessings.

The name of the Sannyasin was Upagupta. He accepted the Emperor as his disciple. Ashoka, the great became the Buddhist, the Great. He followed the path of love and peace henceforth. He gave up violence of all kinds. The Kalinga war was the last war in his life. He made no further conquests. He conquered Kalinga to be conquered by it at last. Chandashoka became Dharmashoka.

The change that took place in Ashoka has been described thus, "Even one hundredth or one thousandth part of these who were slain, died or were captured in Kalinga, is today considered regrettable by the Beloved of the Gods".

At the Apex of the political power Ashoka realised the importance of spiritual power. After winning war, he felt the irrationality of war. With

great missionary zeal he propagated Dharma, the eternal law of love, peace and brotherhood throughout the Asian continent.

The Kalinga war is an epoch-making episode in the history of mankind. The Dhauli hill and river Daya (Compassion) are the silent witnesses. The rock edict erected by Ashoka still stands to inform the world about this. The majestic

elephant carved out of a single stone atop the rock edict now symbolizes one of the greatest battles of the human history. Today the Peace Pagoda constructed by the Buddhist Fraternity from Japan reminds us of this immortal story.

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Chief Minister Shri Biju Patnaik inaugurating the All India Tennis Championship at Bhubaneswar on November 12, 1990 by presenting a bat.



Minister, Information & Public Relations Shri Sarat Kumar Kar inaugurating the Souvenir in the function organised by Utkal Journalists' Association on October 28, 1990 to celebrate the 42nd foundation day of I. F. W. J.

# Iconography of Jagannatha as reflected in Oriya Literature

Dr. Santilata Dei

The iconography of Jagannatha-triad is more interesting and mysterious than the cult itself. Jagannatha is the pivot of Orissan culture and religion. From that point of view Jagannatha has been exerting tremendous influence on Orissan art, architecture, belief and custom, particularly on Oriya literature. The glory and greatness of Jagannatha as the Lord of the universe, saviour of mankind, redeemer of the fallen and the friend of the devotees, have been very broadly narrated in Oriya literature in the form of *kavya*, *bhajana*, *chautisa*, *chhanda* and folk-lore etc. Similarly the peculiar and curious iconography of Jagannatha-triad, which distinguishes the deities from other Hindu-Gods, has been reflected in Oriya literature. The myth of the construction of the Jagannatha-trinity out of the Daru has been celebrated in a large number of verses, *kavyas* and lyrics. In the puranic literature in Sanskrit, there is vivid description of the story of Jagannatha-triad and their wooden frame.<sup>1</sup> Particularly the legend of the discovery of the Daru in the sea by the king *Indradyumna* is found in both Oriya and Sanskrit literature. *Sarala Dasa* of the 15th century is the first Oriya poet to depict the formation of Jagannatha-image on the basis of the legendary sources and puranic themes. The *Sarala Mahabharata* contains the stories of the carving of Jagannatha-image, which of course differ slightly in description in different parvas with the main theme unaltered.<sup>2</sup>

According to the *Musali Parva*, the dead body of Lord *Krsna* could not be burnt in the fire in

spite of the best efforts of the Pandava brothers. A divine voice (*Sunya Vani*) was heard, which instructed them to get the half-burnt body floated in the Ocean, which would appear as *Nilamadhava*. Thus *Nilamadhava*—a form of Lord *Krsna*—was worshipped by *Jara-Sabara*.<sup>3</sup> *Gala-Madhava*, a devotee king of Lord *Vishnu* deputed his messenger to the four directions in the quest of Lord *Vishnu*'s image. *Basudeva Dasa*, a Brahmin, was sent to the south, who passing through a long distance, covering many forests, ultimately reached a *Sabara-colony* and made friendship with *Basu-Sabara* a descendant of *Jara-Sabara*. After remaining for some days with him, he noticed his *Sabara*-friend daily going with *Puja*-articles somewhere and out of curiosity he came to know from the wife of the *Sabar* that *Basu* was daily going to worship *Nilamadhava*, the very incarnation of *Narayana* alias *Vishnu*.<sup>4</sup> The Brahmin earnestly requested his *Sabara*-friend to take him with him in order to have a *darsana* of the Lord. Next morning the Brahmin accompanied him, but being blind-folded, he on his way was throwing the seeds of '*Maghatila*' (a kind of mustard) without the knowledge of *Basu-Sabar*. He was unfolded on the spot and found *Madhava*, the very Lord of the world (*Jagannatha*).<sup>5</sup>

With the same theme as described in *Musali Parva*, *Bana Parva* has mentioned the name of the devotee-king as *Indradyumna*, the *Duta* (messenger) as *Basukara* and the wife of the

Sabara as Lalita.<sup>6</sup> After locating the Vishnu-image under the Agrabrksa, Basukara conveyed the happy news to Indradyumna, who overwhelmed with joy, immediately set out for the long cherished image of Vishnu led by a powerful army. But at the very presence of the king, the image disappeared and the former threatened the Sabara to kill him who was suspected of concealing the image. The divine voice expressed the innocence of the Sabara and advised the king to find out the image in Daru-form, floating on the Ocean.<sup>7</sup> Early in the morning Indradyumna, with his courtiers found the said Daru of his last night dream, floating in the sea, which was carried by the help of only two friends, Sabara and Basukara.<sup>8</sup> The king was worried for the shaping of the image out of the Daru. The Lord himself in the guise of a carpenter appeared and assured the king to carve the image on the condition that he would do his work undisturbed in a closed house. But the king, failing to hear any sound from the closed house, out of anxiety and fear, opened the door and found, to his utter amazement, that the old carpenter had disappeared leaving there image, carved by him out of the log.<sup>9</sup>

Among the Pancasakha, Atibadi Jagannatha Dasa has described the origin of Jagannatha in his Daru-Brahma Gita which depicts the same incident as narrated in Skanda Purana and Sarala Mahabharata except a few events. According to Daru-Brahma Gita, after the sad demise of Lord Krsna his dead body was carried on a sandal-wood-cot by the Pandavas to Nilagiri, where he was cremated with the sandal wood. But after five days of burning in the fire, except his hands, feet, the rest of the body remained unburnt. The divine voice advised the Pandava-brothers to get it floated in the sea. This half-burnt body or the Pinda of Sri Krsna landed at Banki Muhana and was recovered by Basu-Sabara, who placed it under the Bata-brksa near the Rohini-Kunda. The Brahmin-messenger of Indradyumna, a staunch Vaisnava, located this half-burnt trunk and informed the king who accordingly reached the place. But it had already disappeared. The disappointed king was instructed in a dream to find a Daru on the Banki Muhana and to get the

image carved out of the Log. The Raja followed the divine voice and founded the four deities on the throne (Chaturddha-murti).

The iconography of Jagannatha has been narrated in Deulatola of Nilambar Dasa, a poet of the 17th century. Indradyumna, the king of Malwa came to know from Narada Muni, that Nilamadhava was worshipped by a Sabara on the sea-shore in the East. The king commissioned his Brahmin minister, Vidyapati to ascertain the truth. Vidyapati, after long days of journey reached the place and became a guest in the house of Biswabasu, who was going out everyday for offering puja to Nilamadhava. Through the help of the Sabara's daughter, he could find out the spot and communicated the matter to the king, who had arrived in Orissa with a powerful army. But like the stories of Skanda Purana, Sarala Mahabharata, the image disappeared and appeared before the king in a dream with the prophecy that Nilamadhava was floating on the sea in form of a Log or Daru, out of which the image could be carved. Visvakarma, the divine carpenter in disguise assured the king of shaping the image in a closed room, which should not be opened before the scheduled time. But the queen Gundica, being impatient, insisted to open the door before the time that Visvakarma had scheduled and the incomplete forms of three deities i. e. Jagannath, Balabhadra and Subhadra were found.

Similarly 'Sisu Krsna Dasa', an eighteenth century poet in his Deula Tola has also narrated the story of the making of the image after the Skanda-Purana<sup>10</sup>. According to him Indradyumna deputed Vidyapati to the East, who stayed in the house of Basu Sabara as a guest happily with the hospitality of his daughter Lalita and the Sabar after a few months insisted him to marry his daughter. He claimed himself to be the son of the Sabar who assassinated Lord Krsna and narrated the entire story of Krsna's death<sup>11</sup>. Vidyapati was compelled to marry his daughter and in due course could trace out Nilamadhava being worshipped daily but secretly by the Sabara. Sabara took him with him to the spot, but blind-folded and Vidyapati sowed the seed of Maghatila on his way which grew up into plants in

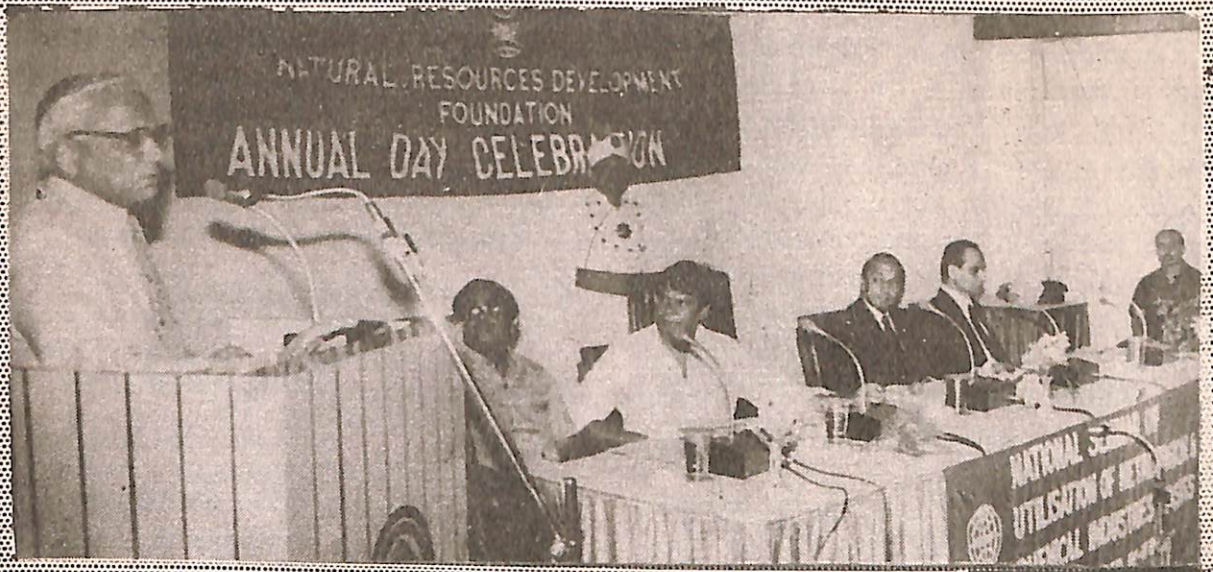
order to help in tracing out the path. After a few days he took farewell and returned to his own country and intimated the news of his success in locating the Lord to the eagerly waiting Indradyumna, who with a powerful army proceeded to the spot exhibiting his vanity and splendour. But the Lord in order to chastise him for his vanity disappeared<sup>12</sup>. The king out of anger and suspicion caught the Sabara whom he accused of hiding the image. The Lord gave him a divine message to set free the innocent Sabara and asked him to erect a temple for him on the Nilagiri (Blue mountain). Accordingly the king built a huge temple and for the consecration of the same went to heaven to invite Brahma. Brahma requested him to wait for a while till he had finished his evening prayer (Sandhya tarpana).<sup>13</sup> Within a few moments of Brahma's prayer, nine yugas passed away, each yuga being of thousand years. When Indradyumna returned with Brahma to the earth, his temple was possessed by Galamadhava, another king who claimed the temple as his own. There arose a conflict between the kings regarding the ownership of the temple and ultimately a crow named Bhusanda and a tortoise gave witness in favour of Indradyumna and the matter was settled.<sup>14</sup> How the temple, without a God, would be consecrated, was a matter of worry to the king, who was ordained by the God in a dream to go to Banki Muhana and to recover the Daru floating there. The Daru could be carried on only by the touch of Basu Sabar and Vidyapati. The story of the carving of the images by the Lord Himself in disguise and the opening of the door before the scheduled time is the same as has been narrated in other books. Krsna Dasa has highlighted a new aspect when the king was informed by the Lord in a dream that the descendants of Vidyapati from his Sabara wife Lalita would be his worshippers to be known as Suaras.<sup>15</sup>

Thus, the theme of iconography of Jagannatha triad has been narrated in a number of Oriya books with a little variation and changes, but the central theme remains almost unaltered.

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Jara-Sabara tahanku niti niti yaina pujai  
—Dasa, Sarala, Musali Parva, P.76
4. Sabarani boila se purusanka utama  
Svayam Narayana se Madhava Pratima  
—Dasa, Sarala, Musali Parva, P.76
5. Brahmana andha patala phitala delaka kirata  
Dekhila Madhava bije svaeng Jagannatha  
—Ibid, P. 76
6. Lalita name Sabarani tara gharani  
—Dasa, Sarala, Bana Parva, P. 183
7. Daru eka hoi lagibi mun suna ho mahipala  
—Ibid, P. 187
8. Jara Sabara ye Basukara brahmana  
Duhen tolante se daru uthila tatsana  
—Ibid, P. 188
9. Dekhila prataksye prasanna ye hoichi tini mrtti  
Krsna, sukla, harita, birajai jyoti  
—Dasa, Sarala, Bana Parva, P. 227
10. Kaliyuga Katha ehi skanda purana  
—Dasa, Sisu Krsna, Deulatola, P. 2
11. Sabara, Sabari tara ghare kehi nahin  
Lalita Kumari tara grhe eka thai  
❖ ❖ ❖ ❖ ❖ ❖ ❖  
Mohara jhiaku bibha hoibu boila  
Mohara utara bamse pita mora thila  
Eka banakare Basudebaku maila  
Tahara nandana Basu Sabara ye muhin  
Mo jhia bibha nohile baratibu nahin  
—Dasa, Sisu Krsna, 'Deula Tola, P. P. 13-14
12. Mohatharu brahmandare nahin bada raja  
Muhin sina karaili kaliyuge puja  
Etaka boli rajana ye mane garbakale  
Garaba ganjana taha Sri Hari janile  
❖ ❖ ❖ ❖ ❖ ❖ ❖  
Manare se garba jani antarddhana gale.  
—Ibid, P. 12
13. Dande rahithaa raja tarpana Saribi  
Tarpana sari deula pratistha Karibi  
—Ibid, P. 13.
14. Boila bhusanda kaka Brahmanku anai  
Deula Indradyumna yaichi tolai  
❖ ❖ ❖ ❖ ❖ ❖ ❖  
Brahma boile deula atai kahara  
Kurma boile deula Indradyumanara  
—Dasa, Sisu Krsna, Deula Tola, P. 16
15. Vidyapati brahmana ye duta pane gala  
Sabara jhiaku se ye pradana hoila  
Sabarani tharu yeun putra hebe jata  
Sudha Saura se heba bole Jagannatha  
—Ibid, P. 28.

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# Jobs For Millions Some Issues

*Dr. Kamal Nayan Kabra*

Over 320 lakh Indians, young and not-so-young, are eagerly waiting for the knock of the postman hoping to receive a call letter for a job from the Employment Exchange. Every year 50 to 60 lakh hopefuls enter their names in the register of the Employment Exchanges. Of this large number, only two to three lakh are lucky enough to find a job this way.

Most Indians are in need of some opportunity to work for earning their livelihood. Only a small number own property giving them a regular income to do away with the need to work. But all those who need some work for earning an income to meet their needs for food, clothing, housing and other essential items do not succeed in their efforts to find jobs.

Besides those who are jobless, 75 lakh more persons become old enough to start the search for work and income every year. This works out to a stunning figure—over 20 thousand new job-seekers per day. When so many things need to be produced (more food, clothing, houses, shoes and variety of goods) and with so many resources being available (land, rivers, minerals, factories, banks, transport) why do people still go without jobs and incomes?

## Policy Rethink

The overwhelming concern of the Government and Planners on this grave

unemployment situation can be seen in two policy papers published recently. Both advocate, as never before, a direct approach to use the entire development mechanism to provide work and income to people in ever larger numbers and improve their living standards. The first one is a document of the Economic Advisory Council. It points out that by and large the country's economic performance was better than before. The value of total output of goods and services produced between 1980—90 was more than in the previous decade. But it did not help the people to find jobs and benefit from such an increase in output.

The way we organise our production, trade and financial and taxation policies should, therefore, be reoriented to deal with the lack of employment opportunities. Development of agriculture, industry and every other sector should be such that it generates jobs and incomes for the masses, according to this report. Greater emphasis should be on agriculture and agriculture related activities as six out of every ten people are employed in this sector. Secondly, it should be supported by export industries such as garment, leather goods manufacturing which employ large number of people. In Industrial development, the policies must encourage small scale producers and production of goods which are needed by common people rather than goods required by small number of people, particularly the rich. This



way people will get jobs and incomes from which to buy goods and services they need. It will generate demand for goods, hence, more economic activities resulting in more employment. Economic activities which displace labour and require more imports should give place to this kind of industries.

This concern over unemployment is shared by the Planning Commission and the new Government at the Centre. The Approach Paper for the Eighth Plan declares that the entire effort of the Plan should be to rapidly increase productive employment opportunities. Meaningful development will ensure mobilising the skills, strengths and creative capabilities of the masses and securing their active participation. Changes in the industrial policy has to be so designed as to realign industrial growth with adequate employment generation, dispersal of industries to rural areas, increase the role of small scale industries, and to promote exports. The Government has declared that it is committed to guaranteeing the Right to Work and considers planning as the instrument for progressive introduction of an employment guarantee scheme to ensure minimum standard of living to the people. Action is needed on many fronts to effectively translate this promise. The Government has declared that it would divert half of the investible resources for agricultural and rural development and give priority to measures to remove illiteracy, provide health care and housing to all in order to enable people to make effective use of their labour.

### Many Aspects of the Problem

What is unemployment ? Someone is fired from his job; he becomes unemployed. A young person leaves school or college and wants a job, but does not find one. These are but two facets of the problem.

We have nearly three crore rural families without any land. Most of them are illiterate and in poor health. Their wages are low. Men may get nine rupees a day and women receive much less. They are employed during agricultural

seasons such as sowing and harvesting; but generally for not more than 100 days in a year.

About one crore of rural artisan families generally take up their traditional family work as weavers, carpenters, tailors, potters, blacksmiths. Their rarely succeed in getting adequate work. Modern factory-produced goods are displacing them. They too look for various odd jobs at places far and near.

### Unemployment in Cities

Similarly, there are the urban poor, living in slums, on pavements, with little skills and no property. Most of them get irregular, casual jobs or undertake odd jobs of trade, transport, repairs, manufacturing, etc.

Such people are by all accounts poor. Their wages and rewards cannot ensure even a minimum human standard of living. But they are working all the same and are willing to do more work. Such working poor are the hard core of the unemployed in India. Ineffectively employed, working poor, informal sector poor workers and own-account self-employed workers are some of the expressions used to describe them. They do not get adequate work and wages. They have been in such a position for many generations.

To this army of the working poor can be added a large number who have tiny plots of land. Such small farmers cling to their land dearly and obtain some work and income by working on it. They try to supplement their incomes by working for others : whether on-farm or non-farm activities. They are only marginally better off than our underemployed landless and artisans.

### Ineffective Employment

Employment means participation in economic activities in two inter-related ways : one to produce goods and services and, second to obtain the means of purchasing the things a person needs. For many what they produce is not enough to provide adequate purchasing power or income for meeting even the minimum essential needs of a family. This is so either because they have inadequate means of

production, or their methods of production generate little output, or the arrangement of production is such that the workers are paid poorly. Such people, like our small farmers with little landholding and equipment, or landless labourers and artisans may be working but they are poor. They are ineffectively employed because their work fails to provide adequate means of livelihood.

According to the best estimates, based on all-India survey, about 280 lakh persons are regularly unemployed. This is a very large number. The real picture of people without work and income in cities, towns and villages should send alarm bells ringing. This is a chronic problem. It shows how unjust and full of inequalities our socio-economic system is. While some may have huge property incomes and others a regular income from work, there are millions without regular work and a flow of income. The unemployed have to depend on their families or friends or do odd jobs in order to survive. They are the poorest of the country.

### The Basic Cause

Is it the manner in which we organise and carry out our social and economic tasks—production, division of work, purchase and sale of goods, creation and use of wealth and its distribution—which is responsible for creating employment? Is unemployment not a failure—a serious and costly failure—of these arrangements within any given system? The Approach Paper for the Eighth Plan and the expert committee report which preceded this attempted to answer these questions.

### Other Factors

Is it because we are too many, some 80 crore, and our number is increasing very fast, that we fail to provide work to so many? It is true that larger population gives greater supply of labour. However, a look at the past shows that the number of unemployed per one hundred persons was practically the same and had remained uncomfortably large for a long time,

both when we were fewer, say, in 1950s, and now when we are more numerous.

Unemployment is an inadequacy of demand for labour. It may persist even with large investment, as now seen in India where about one-fourth of the value of what we produce annually is being invested. This happens because the amount and type of goods we produce and their methods of production do not need much labour. They generate inadequate demand for labour.

Larger population may not be the cause of unemployment but it does aggravate the problem. However, simply by reducing the rate at which population is growing one may not be able to provide jobs to everyone. It may not even be possible to reduce population growth without improving the living conditions of people, which requires that they should be employed in order to develop an interest and hope in better living.

### Historical, Colonial Roots

Historically speaking, unemployment is a modern phenomenon. The system of land ownership, rent collection and money lending deprived people of their plots of land. The competition of foreign and local machine-produced goods destroyed our artisans. They too turned to agriculture for work. Modern industry, railways, posts, telegraphs, telephones, roads, buses, cities, trade and commerce could not provide employment to those people displaced from their land and home industries. The British colonial government drained our resources, reducing the growth of industries and employment in India. Meanwhile, modern medicine controlled epidemics, transport and irrigation did away with famine deaths. Population increased and so did the number of job-seekers. New educational system made people turn away from the villages and manual work without giving them skills, resources and ability to undertake production on their own efforts. We evolved a whole range of new industries copying foreign methods of production which failed to generate the needed

number of jobs. Thus when we won our freedom in 1947, we were left with a legacy of unemployment and a system which continues to increase unemployment.

### Plan Programmes

Independent India accepted the challenge. Along with the attempts to overcome backwardness by starting new factories and increase the rate of growth of production, the plans accepted employment creation as a major objective. Plan programmes in agriculture, industry, irrigation, power, transport, construction, growth of social services like health, education, water supply and numerous private sector activities—farms, factories, shops—were encouraged in order to create a large quantum of additional work and earning opportunities.

However, it was thought that it would take a long time to undo the wrong done for so many years. Thus we planned directly for increasing the total output of goods and services (growth) and employment was to result from this growth. It was argued that you need machines and tools for making labour work and additional goods for the consumption of those who work and earn. Simply printing or borrowing money and employing people would not help, as output would not result from such money. Land being limited and being mainly in the hands of large landowners, machines, tools, equipment and raw materials had to be given to labour to increase production. If production increase does not materialise, the employment which gives money income without producing extra output would lead to shortages, and hence price rise. The way to avoid such a situation was industrialisation, considered as a first step towards work for all.

### Why It Did Not Work ?

A number of difficulties made the unemployment situation worse. The amount of investment needed for massive increase in goods and services (out put) in a short time was

not available. The way income and wealth are shared and goods and services are produced created demand for goods which did not need much labour. We borrowed the methods of production ( technology) from abroad which needed a lot of machinery, equipment and finance but created only a few jobs of high capital intensity. Without creating employment and transferring incomes to more people the process generated less demand for goods and services.

In agriculture, we increased production by using a lot of chemical fertilisers, high yielding seeds and pesticides on irrigated lands. Foodgrain production increased three-fold. It was an achievement. This was called 'green revolution'. But dry farming practised in large areas did not make significant progress. Land could not be distributed to tillers. Large land owners had little interest in using labour for increasing output. Small farmers did not have the resources to increase production; others working on rented land had no stake in it. These policies could not increase employment very much. Poor and unemployed people go in for large families as they lack social security. Additional hands give hope for large incomes, while their low standard of living imposes little cost for bringing up larger families.

### Special Schemes

The total number of unemployed has continued to increase plan after plan. Hence from the 1960s special programmes for giving some temporary and limited amount of work and means of survival to the rural poor on government projects, for construction of roads, schools and other activities were started.

Thousands of crores of rupees (about Rs.25,000 crores) have been spent and millions of workers helped to get some income from these unemployment relief programmes. Bank loans for buying assets for various productive uses like cattle-rearing, poultry and other self-employment programmes were also given on concessional terms and on a huge scale. This helped mitigate the suffering caused by unemployment. It also increased the demand for food and other similar goods.

These programmes had many weaknesses but they showed that unemployment can be removed. In Maharashtra, a scheme to guarantee work was started. This was a little better than other poverty reduction programmes through employment generation. Such short-term relief measures provide no regular employment. They do not make people capable of sustaining their employment with their own efforts and resources. They have continually to look up to the Government for an income flow as helpless dependents. Further such programmes do not create resources for continuing and enlarging them. But with growing unemployment, the need for such employment programmes increases. But shortage of funds forces the Government to limit the size of these programmes. Thus, many unemployed fail to benefit from them.

### Is There a Way Out ?

How can we retrieve the situation ? How can we give everyone a right to gainful, productive work which does not make him or her dependent on public programmes? A just and democratic society must give the people the right to work. This is nothing else but the right to be a useful, participative and equal member of society living by one's labour rather than on mercy and doles.

The Government has promised to give the Right to Work a constitutional status in recognition of this. The Approach Paper for the Eighth Plan intends to make employment creation the basis of development. It speaks of giving greater and direct role to employment growth over increase in total output. It is a challenging concept, especially in a country of India's size and population.

We have the resources—physical, financial and organisational—for the task. We save more than one rupee out of every five rupees we earn. We invest over a rupee out of every four rupees we earn. We produce a lot of steel, metals, machinery. We produce enough food to meet the demand from the newly employed persons. We have a large number of public and private sector managers, engineers, technicians,

accountants, planners. India is the third largest in the world in trained and skilled manpower. Then, what is missing ? What stands between us and employment for everyone ?

Perhaps, basically two things. One, our distribution of income, wealth, social, political and economic power is such that we produce goods which have a low employment potential. We use methods of production suitable for countries where enough labour is not available. We devote excessive amount of investment, energy, technical and managerial resources for the needs of a few. The vast human resource available and which keeps growing is not being harnessed.

Second, the unemployed, ineffectively employed and the poor are too poor, too unorganised and too docile to assert their right to work and human dignity. Will they remain so forever ?

Now the debate over the Right to Work is at a crucial stage. There are differences of opinion on whether a poor country could afford to recognise the people's Right to Work. The Approach Paper to the Eighth Plan promises a real breakthrough.

Decentralised planning is to be introduced. Fifty per cent of the money of the plans would be spent on rural areas. This too is expected to create work and income for the rural poor. Small and cottage industries, especially in backward areas and small towns, are to be encouraged. These steps are not entirely new, except that greater role is promised for them. It is a long, hard road but the right one. Large industries producing luxuries for the few, and with large profit margins but less employment potential, take away a lot of our resources, of our savings, foreign exchange, raw materials and entrepreneurship. But such resources require to be diverted from less job creating industries to strong programmes which can make the Right to Work realisable and meaningful. Some estimates claim that Rs.9,000 crore will be needed to give a modest shape to Right to Work programmes. The policies flowing from the Eighth Plan with emphasis on full employment will have to move firmly in such directions.

# MANA BASA :

## The worship of Goddess Mahalakshmi in Orissa

*Er. Raghunath Patra*

To get rid of vice from the surface of earth and for prevalence of virtue everywhere, Goddess Durga is worshipped every year in the month of Aswina (Sept-Oct). For prosperity and happiness, we worship goddess Mahalakshmi in the month of Margashira (Nov-Dec) and for knowledge and wisdom, Goddess Saraswati in the month of Magha (Jan-Feb). This is how the mysterious inscrutable power 'Sakti' is worshipped in different forms in different parts of the year. In tantricism they are described as MAHAKALI, MAHALAKSHMI and MAHASARASWATI.

### MANA BASA and its purpose :

MANA BASA is one of the rituals in Orissa when a cane-measure (Cane-made measuring vessel) filled with fresh grains (paddy) is worshipped in the month of Margashira (Nov-Dec) of every year in honour of goddess Lakshmi for happiness and prosperity.

India is an agricultural country and Rice (paddy) is our staple food. So the worship of fresh grain implies that 'MANA BASA' is an agricultural festival in honour of Earth mother who nourishes the whole world.

### Myths and Legends :

1. Although the popular epic 'Lakshmi Purana' in Oriya does not come under eighteen

celebrated Sanskrit Puranas and upapuranas, it depicts the magnanimity of Mahalakshmi in the world.

It was Thursday of the month of Margashira. Goddess Lakshmi set out on tour with the permission of Lord Jagannath. She frequented houses of rich people in disguise and felt agrieved for their laziness and dishonest habits. She sermonised one of the rich ladies regarding worship of Mahalakshmi but in vain. Mahalakshmi cursed her. She was rendered poverty-stricken devoid of the grace of goddess. She lastly reached the residence of a low-caste woman 'Sriya'. Sriya took sufficient care to get her home washed and decorated. She kept all requisites ready for worship of Mother goddess Mahalakshmi. The divine mother was very much pleased with Sriya for her sanctity and purity and stayed in her residence.

Soon after Mahalakshmi set out, Lord Balabhadra and Jagannath went on tour. They reached at the residence of Sriya. Balabhadra was displeased to see Mahalakshmi in the residence of a low-caste lady. He instructed Lord Jagannath to prohibit her to enter into Srimandir. Mahalakshmi was not allowed in.

She felt insulted and directed divine Architect Viswakarma to erect a palace by the side of the Bay of Bengal at Puri. All the maidens stayed with her in the magnificent palace. Days within,

the opulent sanctuary was deserted and both the brothers begged from door to door.

Lastly they reached the door of Mahalakshmi and were entertained there with food and drinks. Both the brothers repented and requested her to come to Srimandir. But she imposed some conditions to be adhered to, before she came back to the shrine.

- (a) Irrespective of high or low caste, I shall be there, where there is sanctity.
- (b) Irrespective of caste or creed, all can take Mahaprasad together.

Both the brothers consented to her proposals. She came back to Srimandir. The holy shrine flourished soon after her arrival.

2. Once Indradev was engrossed in love with Rambha, the celestial nymph in Nandan Kanan. Durbasa Rishi appeared there with a garland from Lord Vishnu. Indra and Rambha paid salutations to Durbasa. Rishi presented the garland of Vishnu to Indradev. Indra, immediately, out of ecstasy, wound the garland on the braided hair of Rambha. Rishi got annoyed and cursed Indra. Mahalakshmi left Indra as a result. Indra had to undergo a lot of miseries. He was rescued by Lord Vishnu after repentance.

3. Once Shani and Mahalakshmi picked up a quarrel as to who is superior between the two. They came to the palace of Vikramaditya for immediate solution. The king was perplexed to decide the matter at once. He took a day to think over. He consulted with Kali Das, the greatest poet of the royal court. Accordingly two chairs, one of silver and other of gold were kept in the Palace, wrapped with similar cloth all around. Both the chairs out-wardly looked alike. Next day, when Mahalakshmi and Shani came to the Palace, they were offered with the chairs. Mahalakshmi sat on the golden chair and Shani on the silver without their knowledge. Vikramaditya indicated their positions as per the chairs they sat on. So Mahalakshmi was proved superior to Shani. Shani threatened the

Emperor to take revenge on him but due to the grace of Mahalakshmi everything was set right

4. The other name of Mahalakshmi is Annapurna. Of course the deities of Annapurna are not worshipped anywhere during Lakshmi Puja. The metallic image of Annapurna is seen in Anand Bazar of Srimandir. In Kashi (Banaras) the temple of Annapurna is there. Srimad Shankaracharya has addressed her as Kashi Adhiswari or presiding goddess of Kashi and prayed for her grace. Of course some of the authors accept Annapurna as Shibani, the spouse of Lord Shiva.

Once Swamy Nigamananda had been to Kashi. During his stay there, he saw some beggars licking the leaf-plates of others. He thought, had there been goddess Annapurna in Kashi, people would not have starved. He went to the sacred Ganges for bath, there after. Few hours later, when he was in meditation, an old woman came to him and offered a paper packet to take care, till she returned from river-bath.

In the evening when he got up from meditation, he was surprised to see the paper-packet lying still by his side. The old woman did not come to take back her packet. Out of curiosity when he opened, he saw fresh 'Sitabhog' of Murshidabad. Nigamananda was feeling hungry then. So immediately he appeased his appetite with that and felt contented. At night when he fell fast asleep Goddess Annapurna appeared in his dreams and he heard her voice. He immediately got up and prostrated at her feet. Nigamananda could realise the magnanimity of Mother-goddess who nourishes the whole world.

### Observation of the festival :

On Wednesday, the day before Thursday of the month of Margashira, the house wife gets the house clean, washes the walls and floors, and paints, with 'Chita' (rice-paste), various designs, primarily of the lotus-feet of Mahalakshmi and multi petalled lotus etc. with artistic skill.

On Thursday morn, the house-wife wears clean fresh cloth after purificatory bath. Fresh

fine paddy is taken full in a painted cane-measure and placed on a wooden low stool with coloured canopies hung atop. Three fresh betel nuts washed with turmeric water or *panchamrit* are kept. A sacred thread with ten knots representing ten different names of Mahalakshmi and ten *dubas* (green grass) tied in, is kept by the side of betel nuts. Lakshmi, Padmalaya, Padma, Kamala, Sri, Haripriya, Indira, Lokamata, Amba, Khirabdi Tanaya and Rama etc. are the popular names of Mahalakshmi. A bunch of ears of paddy, well braided are kept over it. The cane-measure is decorated like a newly wedded house-wife. Goddess Lakshmi is invoked with offerings of flower-garland, sandal, camphor, vermilion, lamp and food.

Mother-goddess is worshipped in three *Dhupas* i. e. breakfast, dinner and supper. In breakfast and supper, milk, curd, cheese, cocoanut, sweet parched paddy are offered to Goddess. The worship closes in the evening after *Sandhya Alati* (waving of light).

Mana Basa takes place on all Thursdays after Prathamastami. Prasad of Mahalakshmi in this festival is not consumed by the women who have already married in other families.

The completion-day (Udjapana-day) falls in the month of Magha or Baishakha. Varieties of cakes (Arisha, Kakara, Bhaja Manda, Khaja and Gaja) are offered to the Goddess. The rice obtained from paddy kept inside the cane-measure is utilised in preparation of *payas* for the family members.

### Observations and Prohibitions :

Morning bath, cleaning houses, painting floors and walls with rice-paste, wearing clean cloth, service to husband and elderly people at home, service to cows and other domestic animals, help to poor people and reciting Lakshmi Purana are to be keenly observed.

Parched paddy, non-vegetarian food, bitter food, white gourd, refuges, cohabitation, taking curd at night, shaving, throwing food while eating, cutting of pumpkin, massaging oil before bath, laughing aloud, eating facing towards

south and west, combing hair at night, to use oil after bath etc. are prohibited.

### Antiquities of worship :

According to some authors, worship of Lakshmi in Orissa has commenced before inception of Christ. The caves of Khandagiri at Bhubaneswar, stone image of Mahalakshmi in Parsurameswar temple of Bhubaneswar, stone image of Mahalakshmi in Jagannath temple at Puri and Konark temple depict antiquities of Laxmi worship in Orissa.

Goddess Mahalakshmi is worshipped in Dipavali of the month of Kartika and in Kumar Purnima of the month of Aswina as Gaja Lakshmi. Ashadha Sukla Panchami is considered to be Hera Panchami or Vijayotsab of Mahalakshmi. Baisakhya Sukla Navami when birth day of Goddess Sita is observed is known as 'Lakshmi Navami'. According to the mythological belief, Sita and Rukmini happen to be incarnates of Goddess Mahalakshmi. 'Lakshmi-Narayan Puja' is conducted in Sukla Ekadasi combined with Thursday. So is the case with Guru Panchami when Sukla Panchami combines with Thursday. When Sukla Dashami combines with Thursday, Sudasha Vrata is observed. Mahalakshmi Vrata is observed from Bhadrav Suklastami to Aswina Amabasya.

The glory of Vara Lakshmi brata, observed by women for long life of husband, good progeny and prosperity, on Friday immediately preceding the full moon day of the month of Shravan (Aug—Sept. ), has been described by Lord Shiva in Skanda Purana.

### Conclusion :

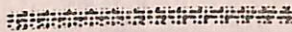
India is a land of agriculture and most of the festivals are agriculture-oriented. Rice is the staple food in India and the month of Margashira is the harvesting month. Every house is full of fresh grains. That is why the goddess of opulence and prosperity, Mahalakshmi is worshipped in the opulent month of Margashira. In Srimad Bhagavat, Bhagavan proclaims that He is Margashira among the months and spring among the seasons. 'MASANAM

**MARGASHIRSHOHAM RITUNAM  
KUSUMAKARAH'**(Srimad Bhagavat Gita 10/35).  
Fresh grains convey the idea of growth and  
prosperity. So the worship of foodgrains implies  
the worship of Earth Mother.

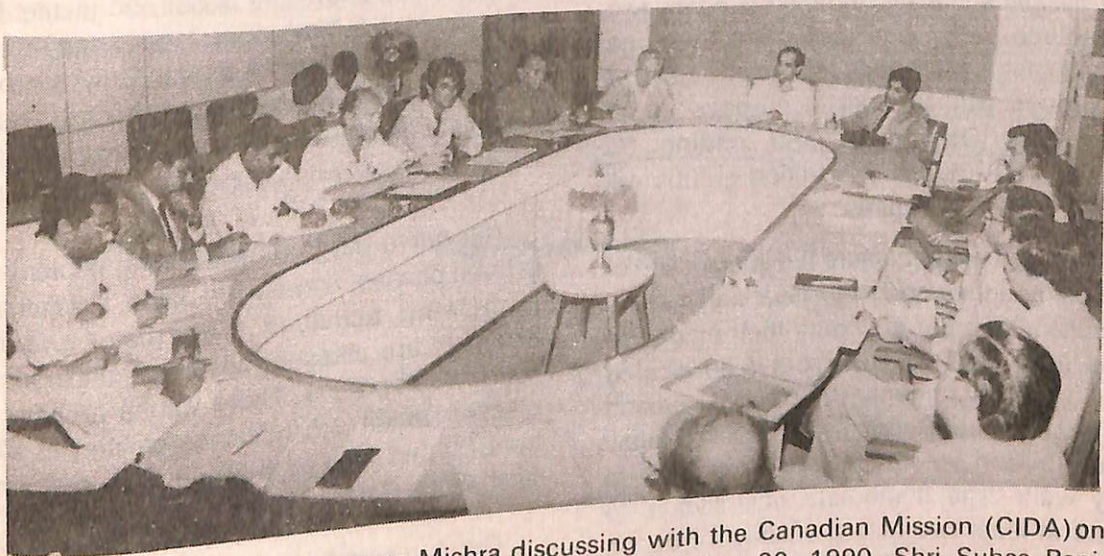
'GRIHINIM GRIHAMUCHYATE' : House-wife is  
the house or in other words the nucleus of

house Negligence of house wife  
means negligence of prosperity at home. That  
is why Lord Balaram and Jagannath had to  
undergo severe predicament and sufferings in  
the absence of Mahalakshmi.

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Shri Ghasiram Majhi, Minister, Health & Family Welfare conducting the Green Card draw  
for the year 1987-88 at Soochana Bhawan, Bhubaneswar on October 31, 1990.



Chief Secretary Shri Ramakanta Mishra discussing with the Canadian Mission (CIDA) on  
Chilka Lake development at Bhubaneswar on November 20, 1990. Shri Subas Pani,  
Secretary, Science, Technology & Environment is also present.



# A new crusade against ILLITERACY

From October 2nd, a new army has started marching across the length and breadth of the country waging a fresh assault against illiteracy. This army sponsored by the National Literacy Mission Authority is called 'Bharat Gyan Vigyan Jatha' (BGVJ). It is a bold and ambitious initiative to sensitise the entire nation. The programme envisages a nation-wide campaign to create an effective demand for literacy as well as people's machinery to deliver it.

About 500 groups each consisting about 15—20 artists, educationists and activists of different voluntary organisations, will go to all the districts of the country to perform in more than 60,000 villages and towns to mobilize nearly two lakh resource persons to give more than one million volunteers as literacy instructors. Each of these groups will conduct a 40-days Jatha starting from October 2 and ending on November 14 — during this period groups will visit 120 to 150 local centres.

These groups are to capture the imagination of the people and their social, political and cultural organisations in order to ensure their emotional backing to the cause of literacy. It is anticipated that the Jatha would generate effective demand for literacy from the illiterate population and throw up many million volunteers ready to take up literacy work. The immediate objective is to generate at least two million volunteers by the end of this year who will in turn be engaged in making 20 million persons fully literate.

## The Samithi

The Jatha programmes are organised by the Bharat Gyan Vigyan Samithi, a registered society with Dr. Malcolm Adiseshiah as Chairman. A Central Secretariat under the overall supervision of a 13 member Executive Committee functioning at New Delhi is guiding and monitoring the day-to-day activities at State, district and local levels.

Over 200 whole time 'Literacy Ambassadors', each responsible for the activities in one to three districts, are the key persons in the organisation of the Jatha. There are about 500 district level and about 60,000 local level functionaries working on a voluntary basis. They are being guided and helped by broad based organisations at the State, district and local levels.

The entire programme is being implemented in three phases, namely Pre-Jatha, Kalajatha and Post-Jatha activities. The major pre-Jatha activities are classes, posters, exhibitions and literacy campaigns. There will be a series of 4 classes which are to be conducted at all the centres and also in 8-10 villages surrounding each Jatha Centre.

The subjects to be discussed in the classes are 'Why literacy?', which is intended to emphasise the liberating role of literacy; 'The

world we live in', which gives a scientific world outlook; 'Literacy and Women', which emphasises the extremely important role of women's literacy; and 'Health', which is a simple introduction to easily preventable diseases and also to social dimensions of health. The lecture notes are centrally prepared which are transcreated in the local languages. About 2.5 lakh volunteers, a quarter of them being women, were trained for this purpose.

In the pre-Jatha literacy campaign, basic data on literacy will be collected at the district, taluka and village levels which is to create at the primary level an awareness of the need to eradicate illiteracy.

### The March

The Kalajatha phase which started on October 2nd will present cultural items for one and a half hours everyday at each Jatha Centre for 40 days till November 14. The cultural items will include short plays and group songs, the general theme of which will be 'Literacy and science for National Integration and Self-reliance'. The scripts for the cultural items were also produced at workshops organised at national level and transcreated in local languages. Training and rehearsals for the Kalajatha teams were conducted at State and district levels.

Organising and launching of actual literacy programmes will be the activities in the post-Jatha phase of BGVJ. It is expected that literacy programmes in at least 60 districts involving learners and 3 million voluntary instructors will be launched towards the close of the programme.

The perspective literacy to be propagated by the Jatha will be, first and foremost, "learn to write and read". This does not mean learning to read and write one's name only. Writing has to become a natural skill of the hand like ploughing, brick laying, fishing etc. The norms prescribed by the National Literacy Mission in this respect, are considered to be too high by many adult educators. But if writing and reading ability is to become functional, they have to achieve this level and even higher perhaps not in five or six months, but over a longer period. The neoliterate should be freed from the bondage of not only illiteracy, but also of the necessity of requiring a teacher. She or he should be able to make use of the immense wealth stored in the world of written words. Their reading and understanding ability should be self sustainable.

The BGVJ is also planned at a time when the obscurantist and fundamentalist forces, the forces of casteist, communal and regional chauvinism all threaten the very fabric of the nation. This lends a sense of urgency to our tasks. Values and knowledge from science bring out the common identity and destiny of the human species and contradict and negate communal hatred, putting one section against the other.

Thus the BGVJ is a crusade for literacy, a crusade against the conditions that maintain illiteracy, a crusade against disruptionists, destabilisers and communalists, a crusade against dependence. It will also put universal literacy on the agenda of national priorities.



# Solving Fuelwood Scarcity in Rural Areas of Orissa : —A Practical Approach

*Ajit Bharthuar*

Fuel is one of the primary needs of man. Wood has traditionally been used as fuel. Of the total fuel requirements, agro-wastes as fuel contribute only 10—12%. The balance is met from wood resources. It is estimated that private wood resources may contribute 2—3%. Thus, the overall scenario presents an almost total dependance on the State/community forests as wood resource base.

With the rapid depletion of forests and concomitant increase in human population, a stage has been reached where in most parts of the region removal of wood on the principles of sustained yield is not possible. The health of the forests has hitherto been the concern of the State and not that of the common man. Land satellite imagery reveals that as much as 5,000 sq. kms. of open forests have disappeared over a period of 4 years. This throws a light on the level of firewood demand as well as the alarming rate of depletion of forests.

In the spectrum of domestic as well as community use of wood, the problem relating to the use of wood for cooking and allied purposes causes concern. Serious thinking has gone into it. Several technological breakthroughs is providing wood alternatives have come but its impact on the overall wood resource demand has till now been insignificant.

An attempt is being made in this paper to estimate the fuelwood demand of the rural

sector in Orissa and suggest some measures to tackle the problem.

Table 1 gives the fuelwood demand of the rural sector in different years.

TABLE—1

Year	Projected population (Million)	No. of household (Million)	Fuelwood demand (Million tonne)
(1)	(2)	(3)	(4)
1990	23.65	4.2	7.8
1992	24.46	4.36	8.1
1994	25.30	4.51	8.3
1996	26.17	4.67	8.7
1998	27.07	4.83	8.9
2000	28.00	5.00	9.30

Note : The demand projection is based on the following assumptions :

- (a) Each household has on an average 5.6 family members.
- (b) Each household requires 1.86 tonne of firewood per year.

The recorded production/extraction at the current level is of the order of 1,50,000 metric tonnes. This mostly caters to the needs of the urban population. If we assume that the demand

at the present level of consumption has also been met through the unrecorded extraction of open forests, then annually about 4,000 ha. of open forest will disappear (assuming removal of 40 metric tonnes/hectare) or 2,000 sq. km. of the dense forest will degrade (assuming removal of 80 metric tonnes/ha.). The actual position at the present is somewhere in between these two extremes. But if the problem is left to itself, then at the present rate of depletion, the whole forest cover in this state would vanish within 20 years.

Contemplation of action programmes to solve the fuelwood scarcity must underscore one vital point that at the present stage of forestry, all the fuelwood demand cannot be met from forests, if forests are to be preserved. Other energy sources have to be tapped to supplement firewood to meet the overall fuelwood demand of the rural sector. Among such sources are electricity and bio-gas. These two sources also have some limitations. Electricity cannot be made to reach all households and bio-gas units can be introduced only where there is concentration of cattle population. The problem is a complex one. Simple apportionment of percentage contribution to different energy sources is not the solution. It has to be tackled at each household unit. That means we have to decide how many households shall use which source of energy in order to evolve a practical solution.

Considering the various limiting factors of each of alternative energy sources, the following model may be a pragmatic approach in deciding the number of households to meet their fuelwood demand from different sources.

TABLE—2

Year	No. of households (Million)	No. of household in Million proposed to draw their energy from		
		Firewood	Electricity	Bio-gas
(1)	(2)	(3)	(4)	(5)
1990	4.20	4.08	0.12	..
1992	4.36	3.91	0.20	0.05
1994	4.51	4.11	0.30	0.11
1996	4.67	4.02	0.50	0.15
1998	4.83	3.93	0.70	0.20
2000	5.00	4.00	0.70	0.30

Electrical connection at the current level has been taken at 3% which should increase up to 15% by the end of 2000 A.D. Bio-gas units are proposed to be installed for 50,000 households in 1992 and for 3 lakhs households by the turn of the century.

Again, the fuelwood demand of the households can be reduced with the use of improved Chulahs. Introduction of improved chulahs and its acceptance by the people is easier said than done. However, its acceptability may get a boost if the Chulahs are made available free of cost. The following table shows the firewood demand in different years, if the targeted number of improved chulahs are supplied and used in the households.

TABLE—3

Year	No. of household (in million) to use firewood	No. of household (in million) to use improved chulah	Firewood demand in such a situation (in million tonnes)	Financial implication in crore Rupees
(1)	(2)	(3)	(4)	(5)
1990	4.08	..	8.00	..
1992	3.91	1.00	6.52	4.00
1994	4.11	2.00	6.15	8.00
1996	4.02	3.00	5.24	12.00
1998	3.93	3.90	4.41	15.60
2000	4.00	4.00	4.46	16.00

Note : The above position has been computed on the following assumptions :

1. Improved chulahs are 40% more efficient than traditional chulahs.
2. The price of chulahs is taken at Rs.40 each.
3. The manufacturing units will be able to increase the supply of chulahs from 1 million in 1992 to 4 million in 2000 A.D.

However, the question remains : wherefrom are the requirements of fuelwood in different years shown in the column 4 of table 3 to be met ? The recorded production of fuelwood at

present mostly caters to the needs of the urban population. Plantations raised under various Social Forestry schemes may meet a part of the requirement. The balance would be met as is being met now. The following table indicates an uncovered firewood demand in different years and its effect on the forest cover in the corresponding years.

TABLE—4

Year	Firewood demand (in million)	Possible supply (in million tonne)	Uncovered demand (in million)	Estimated loss of open forests in Sq. Km.
(1)	(2)	(3)	(4)	(5)
1990	8.00	..	8.00	1,000
1992	6.52	0.06	6.46	807
1994	6.15	0.18	5.97	746
1996	5.24	0.22	5.02	627

Can we bridge the gap between demand and supply from the forestry sector ? Taking 7/8 years as the rotation period for the fast growing species, today we can only plan for the state of affairs projected in 1998. To meet such a contingency a massive afforestation (energy density plantation) programme of the order of 0.11 million hectares have to be launched. This estimate has been based on 50 per cent survival of plants. However, if this could be increased up to 70 per cent then the order of afforestation programme will be over 80,000 hectare and this would require an investment of the order of 62.40 crores per annum.

#### Order of Investment on Bio-gas units :

If Gobar gas plants of the capacity for 4 cubic metre is installed, this can meet the energy requirement for cooking alone of 4 households.

Under this assumption the number of plants to be installed in different years and investment needed are indicated in the following table.

TABLE—5

Year	No. of households to use Bio-gas (in million)	No. of Bio-gas to be installed	Order of investment (in crore rupees)
(1)	(2)	(3)	(4)
1990	..	..	..
1992	0.05	12,500	9.00
1994	0.10	25,000	18.00
1996	0.15	37,500	27.00
1998	0.20	50,000	36.00
2000	0.30	75,000	54.00

#### Conclusion :

In the above analysis we find that assuming that 15 per cent of the households draw their energy from electricity, the order of annual investment in afforestation would be of the order of 62.4 crore rupees. In addition, the investment of improved chulahs would be Rs.56.00 crores and that in the bio-gas plants would be Rs.144 crores over a period of 10 years. The cost of production of additional electrical energy to meet the requirements of 15 per cent households will be extra. Only with this order of investment, the depletion of forests can be checked around the turn of the century.

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