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DEVLOPMENT POLICES AND RURAL POVERTY IN ODISHA : MACRO ANALYSIS & CASE STUDIES

A CASE STUDY BY VASUNDHARA

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March, 2005

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Development Policies and Rural Poverty in Orissa: Macro analysis and Case Studies

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We express our gratitude to Planning Commission, Government of India who provided the crucial support to us to look critically at the development strategies, policies and programmes in some of the key sectors i.e., agriculture, forestry and mining and industry in relation to their impact on the rural poor in Orissa.

The study being a reflection of ground realities related to impacts of the development policies and programmes on the lives and livelihood of the poor in rural areas, we must add that we are deeply indebted to the villagers of Uppara Jaagar of Kumundi Gram Panchayat & Uppara Kainsari of Suakathi Gram Panchayat of Keonjhar district and Jambahal Village of Patnagarh Block & Upparbahal Village of Louisingha Block of Bolangir District. Infact, their insight contributed significantly to the research work.

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Development Policies and Rural Poverty in Orissa: Macro Analysis and Case Studies

Developments and Poverty: A Premise

The meaning of "Development" in independent India has not been the same for all sections of Indian society though all Indians had welcomed liberation from the clutches of the British with equal warmth. The Nehru-Gandhi debate on India's path of development which remained unresolved apparently because of an abrupt end to Gandhi's life; the training of the new class of Indian rulers in western capitalism and the compulsion of inheriting the colonial laws and institutions of governance, and the bureaucracy together provided a backdrop for initiating a path of development which was alien to millions of masses in India. Though there has been consistent efforts by the state to make the centralised planning more people oriented and people centric the dichotomy between peoples' unmet felt needs and the fruits of development has got further widened ultimately reaching a point where serious questions are being raised about the planning process itself. This has assumed further significance in the light of the inception of the LPG regime in Indian in the 1990s. Centralised planning has occupied centre stage of debates and discussions particularly by forces that are keen to see that no stone remains unturned on the path of fast integration of the country's economy in to world economy. The concerns for ensuring a higher growth rate for the economy immaterial of its consequences for deep-rooted economic inequalities has in fact disabled us in making a rational and scientific assessment of the development processes so far. There is a need to stop and reflect on what is happening in some of the key sectors of development.

Development through large-scale industrialisation, urbanisation and modernisation, designed to alleviate poverty and debt has ironically helped elite and urban sections of India with residual impact on rural populations. Economic plans adopted to propel India's development in industry and agriculture has been found increasingly capital, technology and energy intensive, environmentally exacting and positively assisting capitalist merchants, industrialists, rich farmers and the technical and administrative bureaucracy. Development actions have exponentially increased India's industrial production and radically deteriorated its land, forest and water resources. Their consequent residual impact, calculated to alleviate poverty and related socio-economic oppressions within the most disenfranchised caste, class

and adivasi(tribal) communities in India, have failed to produce corresponding results. To the contrary, it has generated other forms of poverty through devastating the livelihood base of a large number of subsistence communities. Economic poverty continues to deface India- as 350 million people continue to live in poverty. For over 35 percent of the country's population, development has remained unattainable. (Saxena, 2000a:p.6.)

In addition, there are currently 100 million people in the country that are heavily dependent on forest lands for basic subsistence and 275 million others that live near and depend on the forests for economic sustenance. About 175 million tons of fodder are collected by graziers annually from India's forest lands.(Poffenberger 2000:p.46). Much of India's forest lands and in particular much of the 15.4 million hectares under forestry, remain over exploited and caught in a process of biotic degradation. (Ministry of Environment and Forests, Volume-I.1999a:p.124).

In 2001, almost fifty-four years after independence, people continue to struggle within the violence of deprivation and powerlessness, burdened by the dilemmas of everyday existence. Communities, for whom subsistence is inextricably linked to their immediate ecology, have at times become the casualties of nation building since independence. Incremental changes wrought by development processes have fomented deep discord related to environmental management and provisions for the empowerment of marginalized peoples. "These conflicts range from the incessant battle between the forest department and local communities…."(Baviskar, 1995:p.32), to continue collisions "between mechanised trawlers and traditional fishing boats in India's coastal waters, to the controversy over the Dunkel Draft and rights to genetic resources".(Ibid,p.33.) and intellectual property rights. These conflicts within the post- independent state are not simply premised on demands for improved access to resources, but involve conflicting rationalities and mechanisms for using human and environmental resources and ways of allocating worth to human and social labour.

Critical Reflections on Development and Poverty:

Development in Orissa began in the 1940s and escalated during the post independence era in the 1950s, with the introduction of planned development (See Pandey, 1998). The state has been operating on the assumption that the development of Orissa's immense reserve of

natural resources would lead to all round development of the state and thereby also alter the conditions of the marginalized and the poor. However, five decades later, in 2001, Orissa still has a very large population of rural poor.

Statistics show that the Eighth and Nineth Plan outlays increased from 10,000.00 crores in 1992-97, to 15,000.00 crores in 1997-02, as did the Net Domestic Product of the state from 4913 crores in 1994-95 to 6411 crores in 1999-00. The Tertiary and Services sectors maintained a steady increase since 1993, while the Primary and Secondary sectors witnessed a spiked performance.(Gov, c2000a).

Yet, in the 1990s, the rate of decline in poverty ratio is comparatively much lower in Orissa then the national averages, posing a threat to its social and ecological health. Government of Orissa figures suggest that the intensity of poverty in Orissa is very high. Fifty percent of the State's population that live below the poverty line has lower incomes than the average income of the population below the poverty line nationally. The concern among economists is that the interplay of macro and micro factors are responsible for the maintenance of poverty. Figures available for Orissa indicate that the ratio of combined rural and urban poverty was 48.56 percent in 1993-94, compared with 35.97 percent in the country. Poverty ratio in Orissa stood at 49.72 percent in rural areas and 41.64 percent in urban areas in 1993-94. These figures are much higher then the national average of 37.27 percent for rural areas and 32.36 percent for urban areas (GoO, c2000a).

Among macro factors, economists cite the lack of sustained growth in the primary sector, particularly in agriculture, instability of the food grain market in terms of access and price, and lack of basic infrastructure as responsible for underdevelopment and high level of poverty in rural areas. Among micro factors, economists assert a lack of access to and control over resources, including private resources such as land and common property resources like water, forest and public lands. They also cite the degeneration and degradation of land and forest resources, lack of capacity development and structural support for entrepreneurship.

The State's development strategy has focused on macro level promotion of mining, power and heavy industries. Public investments have been substantial in the areas of developing water resources facilities. However, public investment in agriculture has declined since the late 1970s, which seems to be a main factor for stagnation in agricultural production, and thereby

a rise in the absolute number of people below the poverty line in rural areas. Also, while schemes and programmes focused on poverty alleviation such as IRDP, JRY, EAS, SGSY, JGSY, EAS, etc., have been continued in the Ninth Plan, their impact on the alleviation of rural poverty has been doubtful. They are also often mismanaged, ill planned and financed, and surfeit with corruption.

Development activity accesses ecological resources and labour to contribute substantially to the State's/nations growth. How is this growth envisioned in the sector-wise policies of Orissa? Who bears the costs? What are its effects? Who are its beneficiaries? Is State income and growth being generated at economically efficient, environmentally sustainable, and socially equitable levels? Increasing 'development' is effecting forests and public lands, environmental health and governance, and people who depend on these natural resources and good/services for subsistence and livelihood. This is of particular concern in the context of growing liberalisation and globalisation in trade in agriculture, infrastructure and industry. What is the nature and structure of development financing? How are global environmental and trade treaties effecting the relationship between local communities and their use of resources, and the integrity of the State's economic functioning? What consequences will the development, environment and trade regulations and standards proposed by international policies pose for Orissa's poor?

In the context of the cyclone of 1999, the drought of 2000 and the floods of 2001, development poses a formidable challenge in Orissa. Evaluating the last few decades of development in Orissa leads to the conclusion that while certain forms of development are critical for the well being of the State, the objectives, socio-economic and ecological cost-benefit ratios, outcomes, cross-sector integration, distributive mechanisms and delivery systems of development processes needs closer scrutiny.

Objectives of Research:

While implicitly acknowledging the need to engage in development processes, it is important to assess the fabric of that development. In such contexts it becomes incumbent on policy, planning and research agencies, particularly eminent organisations such as the Planning Commission of India, to provide guidance in rethinking India's development as a process that equally honours its commitments to nation building and the empowerment of its poor

citizens. To do so, it becomes imperative to understand the functioning of development policies and programmes nation-wide. Toward facilitating such understanding, it is necessary to conduct critical, independent, integrated assessments of State development policy and implementation. This is particularly critical in the context of economic liberalisation. This research seeks to examine development strategies, policies and programmes followed by the Government, both at Centre and in Orissa, and their impact on rural poverty. This study will explore development within the context of social justice and human rights -- addressing development as a process in postcolonial Orissa that seeks to further national, state and local interests, through enabling local community empowerment while accruing larger economic benefits. This study does have a focus on comprehensive and integrated assessment of Orissa's development policies in some of the key sectors in relation to their impact on the rural poor in Orissa. These key sectors have been identified as agriculture, forestry, mining and industry. One of the major objectives of the study also has been to understand how the gains of development have benefited, and stand to benefit, the local population, as well as enhance State productivity. The present study has also been intended to understand how social and ecological costs in development are defined by the State, and if these costs are proportional to the benefits. The study was designed to review published and unpublished secondary materials, and conduct selected case studies, if required, to evidence policy implementation within relevant sectors.

Hypothesis/ Study Concerns

(a) Agriculture

Since the 1960s, with the introduction of the Green Revolution in the agricultural sectors through quick-growing, high-yielding, agricultural crops, the State sought to facilitate the large-scale cultivation of these species. Through the Green Revolution, techno-management of the environment was seen as the resolution to food-supply problems, poverty and industrial demand. It progressively resulted in a brief spurt in agricultural productivity and surplus, along with landlessness and out-migration from rural areas. It generated other forms of poverty through the homogenization and devastation of ecosystems, and facilitated the production of mechanized agriculture, monopolies and alienated labour. It did not resolve the problem of food distribution.

In the last decade, agricultural production in the State has witnessed a spiked growth, from 8,999 thousand metric tonnes in 1993-04 to 9,009 thousand metric tonnes in 1994-95, to a dip in 1996-97 of 6,536 thousand metric tonnes, to a recovery of 8,135 thousand metric tonnes in 1997-98, to a progressive decline of 7,676 thousand metric tonnes in 1998-99, to 7,144 thousand metric tonnes in 1999-00. (GoO, c2000a.)

The Government of Orissa has adopted an agriculture policy that will facilitate greater mechanisation and commercialisation of the agricultural, animal husbandry and fisheries sectors. While this is expected to produce higher yields, such modernisation makes scale an important issue, where larger land capacity is necessary for efficiency and profitability in production. What steps is the State taking to ensure that the small and marginal farmer is not forced to become a landless labourer, and for monitoring the viability of its agriculture policy? How is the credit policy related to agriculture being implemented, and what is the nature and structure of incentives being offered to the small farmer? What are the concerns related to the supply of seeds, and the procurement and marketing of agricultural products? What are the problems and alternatives connected to the continued use of fertiliser and pesticide? What are the issues and alternatives related to decreasing productivity of agricultural lands?

The extended cultivation of crops using conventional methods of irrigation such as flood, canals and wells has resulted in an inefficient use of water. The over-use of water, along with soil erosion and salinisation, water logging and flood and drought conditions have forced a crisis in State agriculture. In the context of growing needs for irrigation water, it is essential to examine the discrepancy between the availability and use of water, and steps taken for the reclamation of waterlogged and salinised land. It is also imperative to examine water, technological (such as drip irrigation as used in Israel), as well as economic alternatives. (Chopra, et. all., 2001.)

The agriculture policy also supports organic farming as traditionally practised by adivasi communities, and has listed certain incentives. How is this being implemented?

The policies relating to marketing and procurement of agricultural and allied products effects return from agriculture and thereby the well being of rural people. Absence of marketing

support for farm produce (as during the rice procurement crisis in 2000) is a major factor in the impoverishment of the rural farmer.

Related to agricultural production and distribution is the issue of food security, especially in light of the recurrent drought, floods and other natural disasters. The policies of the Central Government as well as the State Government in relation to the public distribution system needs to be looked into in terms of its effectiveness and the impact of recent changes in these policies on the well being of the poor. There is also the recurrent issue of food-distribution, for example, while FCI godowns are stockpiled with food, and grains are being exported at very low prices, people have been starving in Orissa.

The problem is also increased by the production of a handful of hybrid crops for the market instead of enhanced food security through cultivation of diverse and nutritious crops for local consumption.

In the context of liberalisation, importing techniques of agricultural modernisation will enhance mechanisation connected to seed generation and crop production, and necessitate greater use of fertiliser and pesticides. What effects will this have on the small farmer, quality of produce and the environment?

(b) **Forests**

Due to uncontrolled commercial exploitation of forest resources in Orissa, the per capita forest area was reduced from 0.87 hectares in 1901 to 0.28 hectares in 1991. (Poffenberger. 1998:14.) High forests are in various stages of degradation and village forests were mostly degraded due to the absence of clear management frameworks between revenue and forest departments, and community grazing lands converted into individually owned agricultural land holdings. As a result there was some usage of forestlands for agricultural and settlement purposes as well.

Since the 1960's, government and international donor agencies mounted a crusade in Orissa to fund commercial monoculture plantations of imported species on public forest and private lands. Theoretically, social forestry provided an avenue for regenerating non-forest lands through scientific and silvicultural management, and providing subsistence resources to local

communities. In practice, it did not stem the exhaustion of nature as a resource, and politically alienated millions of rural and forest communities. (Shiva, 1989.)

Community and Joint Forest Management (CFM, JFM) systems emerged out of the failure of colonial, commercial and social forestry and the Indian government's forest policies in general. Village communities in Orissa began responding to the environmental crisis as early as the 1940s, as they watched the once densely forested hills and plains being denuded. Policy shifts in forest management began at the national level in India in 1980, when increasing anxiety related to the degradation and depletion of the environment led to the passage of the Forest Conservation Act. During the 1980's, subsistence forest products became scarce among India's rural resource users and the first pro-community policy transpired at the national level with the passage of the National Forest Policy in 1988.

Concern over the poor condition of the State's forest has led to significant policy changes including a general moratorium on commercial felling in 1987. (Poffenberger. 1995:40.) The state of Orissa ratified guidelines for Joint Forest Management in 1988, with successive amendments in 1990, 1993 and 1996. This enabled local communities living in and adjacent to forest areas to manage public forests with the sanction of the State. The extent and nature of collaboration within JFM was contingent upon, among other things, the type of partnership, the type of management collaboration and the type of forest land being managed. (Chatterji, 1998.) These forest management systems were meant to include and empower the community but the nature of empowerment remained very limited. (Saxena, 2001:p.13.) Political and operational constraints have slowed the devolution of rights over forestland to user communities in Orissa.

While government and development agency financial support for JFM increased exponentially during the 1990's, numerous issues have not been addressed. Such issues include critical JFM policy weaknesses, a need for State commitment to CFM, need for procedural, tenurial and legal changes to build capacity for local empowerment, livelihood security and ethical forest governance.

At present, there is a growing sense among participants and supporters of JFM in Orissa that new initiatives are required to maintain the larger national effort to reform public forest lands governance. JFM stakeholders are stressing the need for the transfer of authority over

forestlands through establishing tenurial agreements and custodian rights with local community groups. Unilaterally, within CFM and JFM, with a few honourable exceptions, women are the most adversely affected by forest degradation. Poor rural women in Orissa, constitute the lowest sociocultural and economic 'caste'. These women perform housework, agricultural work, and non-formal forest-based and other industrial work. Their work days are invariably 1.5 times longer then men's workdays. (Tinker, 1994:p.98.)

They key issues in the forestry sector relate to ecological sustainability of the forests, and community livelihood security and empowerment. How does the proposed forest policy address the issues connected to decentralised forest governance under the Panchayati Raj, particularly PESA and its extension to Scheduled Areas Act of 1996, and the extension of JFM to tribal areas, instatement of tenurial and livelihood rights over public forest to local community groups?

In addition, what mechanisms are being implemented for stabilising Orissa's natural forests and watersheds as a significant step in sustaining a rural environment that can support the States expanding population?

What mechanisms are in place that can resolve the conflict between maintenance of forests and the utilisation of natural resources for subsistence vis-à-vis large scale development?

How is the forest policy addressing the sustainability of livelihood dependence of the poorest and marginalised communities in Orissa on forest resources? How does this policy propose to ensure the availability of livelihood and environmental services provided by forests, such as water, nutrients, biodiversity? What are the effects of the non timber forest produce (NTFP) policy? What are the impacts of the policies related to nationalised forest produce such as Kendu leaves, Sal seeds and Bamboo? What conflicts arise between the exercise of community rights to forest resources and industrial development?

There is also a greater need for transparency and accountability on the part of development agencies, both governmental, bi-lateral and multi-lateral, that are currently investing into forestry projects at the state level. How can such transparency and accountability be fostered?

(c) **Industry, Mining, Land Acquisition, Displacement and Rehabilitation**

The Government of Orissa states in its industrial policy that large industrial units are essential to economic growth in the State. The Government of Orissa IPR 2001 draft mentions that " *Make Orissa one of the most preferred destinations for industrial development… and to attract investment of rupees 10,00,00 crores by the year 2005"* Toward this, the policy highlights six industrial areas, the first among them being mineral based industries. This policy also acknowledges the importance of small-scale industries and reaffirms its commitment to providing subsidies to such industries.

Through what mechanisms will the industry and mining policies estimate the social, cultural and economic costs of infrastructure development and calculate environmental depletion; provide incentives for the development of social infrastructure and marketing support, and provide checks and balances for national and international private sector investors?

How will these policies provide for and conduct environmental impact and social cost benefit assessments; create industrial monitoring systems, value damage and abatement costs; account for steps to excavate natural resources?

What mechanisms exist for the solicitation of local participation in formulating policy and project ethics and project execution? What checks and balances require the State to adopt an ethical labour policy and provide gainful employment for local labour? How will the State create mechanisms to monitor ecological and human health, instate environmental tariffs or its equivalent, and control environmental pollution and regeneration?

What frameworks currently calculate the increase or decrease in livelihood options, the ratio of employment creation against livelihood destruction; the different sets of beneficiaries vis-à-vis those who bear the costs of displacement, cultural uprooting and loss?

What mechanisms exist for undertaking land acquisition, the development of a land bank, and rehabilitation of sick industries? How does the policy propose to assess direct and indirect displacement and shoulder rehabilitation of persons, animals and livestock, and enable well being (i.e., drinking water, healthcare facilities, formal and non-formal education, food self-sufficiency, capacity building and skill development) and income generation options of

women, dalits, people with disabilities, disenfranchised religious minorities and adivasi groups?

Large scale planned development in Orissa has required the acquisition of land, primarily agricultural land, over the last five decades. Such acquisition has been necessary for the extraction of resources, as well as project construction, and the construction of related infrastructure such as residential complexes, roads, processing and marketing units, etc.

Projects such as Rourkela steel plant, Hirakud, Upper Kolab, Indravati and Subarnerekha multipurpose dams, Hindustan Aeronautics, Talcher thermal power station, Balimela dam, National Aluminium Company were constructed in resource rich areas inhabited by adivasi and poor rural communities. While these projects have greatly benefited the State's economy, they have also led to the loss of livelihood of poor communities from agriculture and forests, and the displacement of marginalised peoples from their lands.

For example, displacement and land submergence figures are disturbing for dam projects. The Hirakud dam displaced 22,144 families from 249 villages in Orissa and 36 villages in Madhya Pradesh and submerged 74,300 hectare of land. Balimela evicted 1200 families in 91 villages and submerged 17,180 hectare of land. Salandi evicted 589 families, displaced five villages and submerged 1229 hectare of land.

Prior to independence, Orissa did not have a well-framed rehabilitation policy. The Land Acquisition Act of 1884, and 1984 modifications, ensured compensation, not resettlement, to the affected. In 1973, Orissa formulated a resettlement and rehabilitation policy for those effected by the Rengali project. This was extended to cover the Upper Kolab and other medium irrigation projects. This policy was revised in 1977 to extend rehabilitation and resettlement to displaced persons and families, as well as to delineate eligibility and enumeration criteria, and outline facilities to be offered, i.e., land for land and other compensation measures.

In 1990, further liberal revisions were made to the rehabilitation and resettlement policy. It offered greater possibilities for land allotment and cash compensation to the project affected. However, the policy did not allocate ethical and equitable standards in outlining the criteria

for eligibility, the extent of land allotment, the scope of rehabilitation, house building assistance, maintenance allowance, or employment opportunities.

In 1994, the Orissa Resettlement and Rehabilitation of Project Affected Persons Policy recognised project affected persons as eligible for rehabilitation and resettlement. However, unless they were physically displaced, they were not considered to be displaced persons. The policy clarified definitions for project-affected zone and affected villages in the case of water resource projects. The policy significantly redefined displaced family, displaced person or oustee, and articulated the need for constructing a baseline socio-economic survey, and stated the process and terms for identification of resettlement and rehabilitation sites.

Yet, it is still imperative that the mining, water, power, infrastructure and other industrial displacement policies generate greater pro-people measures for quantifying and disbursing rehabilitation and resettlement. Development projects that stand to displace people should not be justifiable simply because resettlement and rehabilitation is possible. How might the State rethink its development policies in the context of the right of potential displaced persons to refuse displacement? Calculations of cost-benefit ratios must frame arguments within the context of ecological economics and cultural sustainability. Also, the State should attempt to locate and compensate persons displaced through earlier development projects.

Relief and rehabilitation policies in the aftermath of recurrent natural disasters such as drought, floods, cyclones also needs to be addressed as these events play a major role in impoverishing rural communities in absence of adequate policies. For example, in the cyclone of 1999, the tragedy of the living was compounded with damages amounting to over Rs 7,000 crores, 13,50,000 homes were destroyed, 10,000 km of roads damaged, 30,00,000 people unemployed, and 24,00,000 hectare of farm land inundated. (See Suri, 2000.)

What percentage of those affected and displaced by development projects have received compensation and resettlement? What provisions do the current policies make, and what mechanisms do they endorse to enable affected people to claim compensation when, for example, because of unfair historical circumstances, they are not in possession of land titles, or are unable to demand their rights because of their present socio-economic and emotional situation? What has been the impact of some of these projects, i.e., National Aluminium

Company (NALCO), on adivasi communities, women, dalit and other marginalised groups? Has the rehabilitation policy for NALCO been implemented successfully?

What consequences, including human rights violations, will the increased privatisation of industries produce for project-affected people? What are the anomalies between actual adivasi settlements; their rights under the Vth Schedule; post-facto forest reservation and the Forest Conservation Act? What is the extent of land registration in the State and the threats of displacement without even entitlements to compensation for those whose existence remains unrecorded by the State?

What are the implications of globalisation and privatisation in view of the capital and technology intensive model of development that will generate primarily high skilled jobs and displace the 'unskilled' worker? What is the relevance of such development for Orissa's poor? What alterations are necessary in the Land Acquisition Act and Rehabilitation and Resettlement policies?

Methodology:

This study uses both qualitative and quantitative tools to undertake a comprehensive and preliminary inter-sectoral appraisal, through State level macro and microanalysis. The methodology seeks to generate necessary information that enables an *independent review* of the effects and impacts of development policies and programmes on rural poverty in Orissa.

Rather then using traditional methods of large-scale sampling design that can be amenable to statistical analysis, this research applies a combination of case study and quantitative macro analysis methods that deepen our understanding of the constraints and challenges to development in the state. The strength of this research lies in the detailed inter-sectoral analysis we initially intended to undertake, and the development of methodological tools for inter-sectoral analysis as part of this research. We have tried to highlight emerging issues in rural poverty at the state and field level, as well as policy and operational constraints.

This study has analyzed extensive secondary information, both unpublished and published; related to development policy, project formulation and implementation. The study also conducted selected case studies to assess policy effects within relevant sectors. For the study

of Mining, Industry, Displacement and Land Acquisition: the case study was done in an area affected by mining projects in Keonjhar district.

For Agriculture, the study undertook the case studies of best practise and problem sites within Bolangir district. Using case studies, this research has made an attempt to examine issues of food security, use and effects of pesticide and fertilisers, marketing and procurement.

For the Forestry sector instead of taking new villages in Sudergarh , some the villages the study team was otherwise acquainted with have been revisited for the purpose with the perspective of the present study. The study looked at JFM and CFM programmes, and subsistence and livelihood issues connected to forests in revisits. This research also attempted to examine the costs and benefits connected to livelihood generation, gender equity connected to economic growth, and ecological sustainability of the forests.

Our Initial Thinking:

While implicitly acknowledging the need to engage in development processes, it is important to assess the fabric of that development. In such contexts it becomes incumbent on policy, planning and research agencies, particularly eminent organisations such as the Planning Commission of India, to provide guidance in rethinking India's development as a process that equally honours its commitments to nation building and the empowerment of its poor citizens. To do so, it becomes imperative to understand the functioning of development policies and programmes nation-wide. Towards facilitating such understanding, it is necessary to conduct critical, independent, integrated assessments of State development policy and implementation. This is particularly critical in the context of economic liberalisation.

This research project, *'Development Policies and Rural Poverty in Orissa: Macro Analysis and Case Studies,'* we initially hoped, would contribute to such an endeavor. This research was also intended to examine development strategies, policies and programmes followed by the Government, both at Centre and in Orissa, and their impact on rural poverty with focus on a comprehensive and integrated assessment of Orissa's development policies in some of the key sectors in relation to their impact on the rural poor in Orissa. These key sectors were identified as agriculture, forestry, mining and industry, with related policies on water, food

security, land acquisition, displacement and rehabilitation, disaster management and relief. Our thinking was that the study would enable the Planning Commission in its plan and policy review and in evaluating future directions and allocations in Orissa.

Our Limitations and Constraints:

Things did not happen the way we had initially designed it to happen. The sudden demise of the Study Coordinator and Director of the project left project leaderless for some time and since the services of the resource persons originally identified for the study could not be utilized the problem relating to completion of the study within the worked out framework got further compounded. The study at a period of time appeared to be a liability on the part of the Vasundhara team who has got an excellent reputation for quality research. However, the team of Vasundhara joined hands together and with support from some highly committed researchers could manage to complete the study and prepare the rough draft. The team is well aware of the limitations of the study and is determined to overcome them after receiving feedback on the rough draft. We would very much like to continue our efforts to build up a perspective on poverty and development through systematic and scientific research initiatives having roots in the grassroots.

The rough draft of the study contains four broad chapters, each chapter excluding the introductory one could have been further divided into several other chapters. We may do so when we prepare the final draft after overcoming the limitations. The documents used while conducting secondary research have been given separately at the end of the report.

SECTION I: AGRICULTURE SECTOR

Backdrop

Orissa is predominantly an agricultural state with a majority of the population (Nearly 87%), in the state living in rural areas and depending heavily on Agriculture (73%). This trend of high dependence on Agriculture has been maintained despite a decreasing trend of income from agriculture towards NSDP. The percentage of total workforce engaged in Agriculture was 73.8% in 1960-61, 77.4% in 70-71, 74.7% in 80-81 and 73 % in 90-91, as per the Statistical Abstract of government of Orissa. Lack of corresponding growth and employment opportunities in other sectors have forced people to depend on agriculture despite a significant drop in relative income from this primary source of livelihood. This has given rise to disguised unemployment and seasonal employment. Since the per capita availability of cultivated land has reduced from 0.39 hectare in 1951 to 0.17 hectare in 1999 and population has increased exponentially without any perceptible change in food grains production, heavy dependence on this sector has led to a different kind of vulnerability. The percentage of agricultural workers to main workers has increased from 17% in 1961 to 28.7% in 1990-91, while the percentage of cultivators has reduced from 56.8% to 44.3% in 1990-91 (Census of India,). This trend of occupational base has turned a majority of rural population dependent on uneven income from agriculture.

Normally the uncertainties associated with Agriculture in India and Orissa in particular are attributed to natural phenomena such as failures of monsoon, flood, cyclone or drought. The overemphasis on the natural factors by politicians, bureaucracy and agricultural experts for whatever has been happening in the agriculture sector has made it all most impossible to know the real impacts of developmental action on the sector and the livelihood security it is supposed provide for, to more than 30 million people of this state. The technological interventions made in the agricultural sector as a part of the development paradigm the Indian state adopted after independence and which gathered momentum in the 1960s, with the introduction of the Green Revolution technologies aiming for quick-growing and high-yielding agricultural crops. The State of Orissa did also figure early in the Green Revolution map of the country. The issue of sustaining agriculture on a self-reliant manner was overlooked and making the country self reliant in food production took the priority of the planners. It progressively resulted in a brief spurt in agricultural productivity and surplus, at

the same time it also led to growth of landlessness and out-migration from rural areas. It generated other forms of poverty through the homogenization and devastation of ecosystems, and facilitated the production of mechanized agriculture, monopolies and alienated labour. It did not resolve the problem of food distribution.

In the last decade, agricultural production in the State has witnessed a spiked growth, from 8,999 thousand metric tonnes in 1993-04 to 9,009 thousand metric tonnes in 1994-95, to a dip in 1996-97 of 6,536 thousand metric tonnes, to a recovery of 8,135 thousand metric tonnes in 1997-98, to a progressive decline of 7,676 thousand metric tonnes in 1998-99, to 7,144 thousand metric tonnes in 1999-00. (GoO, c 2000a.)

The Government of Orissa has adopted an agriculture policy that will facilitate greater mechanisation and commercialisation of the agricultural, animal husbandry and fisheries sectors. The National Agriculture Policy has already green signaled for entry of the big corporations through contract farming. Such technology centric interventions make scale an important issue, where larger land capacity is necessary for efficiency and profitability in production. What steps is the State taking to ensure that the small and marginal farmer is not forced to become a landless labourer, and for monitoring the viability of its agriculture policy? How is the credit policy related to agriculture being implemented, and what is the nature and structure of incentives being offered to the small farmer? What are the concerns related to the supply of seeds, and the procurement and marketing of agricultural products? What are the problems and alternatives connected to the continued use of fertiliser and pesticide? What are the issues and alternatives related to decreasing productivity of agricultural lands? The agriculture policy also supports organic farming as traditionally practised by adivasi communities, and has listed certain incentives. How is this being implemented?

The policies relating to marketing and procurement of agricultural and allied products effects return from agriculture and thereby the well being of rural people. Absence of marketing support for farm produce (as during the rice procurement crisis in 2000) is a major factor in the impoverishment of the rural farmer.

The Case Studies:

It was found necessary to go beyond the frequently discussed, interpreted and debated statements on the state of agriculture in Orissa, which normally reinforces the natural factors for any situation in agriculture, therefore, it was decided to meet the farmers living in a naturally hostile environment of the so called KBK districts of Orissa and while learning from their experiences with farming to cross check our own understandings, assumptions and hypothesis on the agriculture sector. Two villages in Bolangiri district such as the village of Upparbahal of Louisingha Block and village Jambahal of Patnagarh Block were taken up for the study. Incidentally, WORLP (Western Orissa Livelihood Project) has been launched in Bolangir district.

Jambahal is a village in Patnagarh Block of Balangir District, Orissa. The village represents a situation where farming has become problematic since several years and the situation has become acute during the last 5 years. Large-scale migration is a common phenomenon in Jambahal, which takes place for 6-8 months in a year. The villagers are seen to be progressively abandoning agriculture and migrating out of the village to far off places such as Hyderabad and Mumbai..

Upparbahal is located 30 kilometers from the District headquarters, i.e. Balangir and some 10 kms from the block headquarter which is at Louisingha. The farmers of the village have been implementing government agricultural policies for the last 15 years. The village has been for quite some time producing enough food to meet its requirement.

As the village enjoys the reputation of advanced farmers the District Agriculture officials were quick to name Upparbahal as the village that has adopted the Goevrnment programmes and recommendations. The Village Agricultural Worker (VAW) and other agriculture extension officials often visit the village. The villagers are currently very apprehensive about the future of agriculture and their livelihoods.

Both the studies are presented below in two parts, Case study –1 on Jambahal (How Farmers are abandoning agriculture and Case Study-2 on Upparbahal (How farmers are apprehensive about Farming). Both the sections include study and analysis; therefore no separate conclusion is given at the end.

Case Study-1: Jambahal Village of Patnagarh Block, Balangir District, Orissa

Introduction:

The village of Jambahal represents a situation where farming has become problematic since several years and the situation has become acute during the last 5 years. In this report we present the situation prevailing currently in the village. And unless otherwise stated the facts and analysis refers to the period 2002-03 and 2003-04. Large-scale migration is a common phenomenon since the last 10 years and it takes place for 6-8 months in a year. This is due to the fact that villagers face acute food insecurity and unemployment. The villagers are seen to be progressively abandoning agriculture and migrating out of the village to far off places such as Hyderabad and Mumbai. But it is quite clear that by a sustained effort spread over the next 5 years or so the whole situation can change and agriculture alone would be able to provide employment to the entire village. The villagers realise that this can be only possible by appropriate change in government policies in agriculture.

Village Profile in Brief:

Jambahal is a village located some 50 kilometers from the District headquarter (Balangir) and some 10 kms from the block headquarter (Patnagarh). A brief profile of the village is presented through the Table-1 below:

Table1: Profile of Village Jambahal

Sl.	Particulars	Unit	Estimate
1.0	**Total Population**	Nos.	1350
2.0	No. of Families		
2.1	SC Families	Nos.	39
2.2	ST Families	Nos.	50
2.3	OBC Families	Nos.	190
2.4	General Families	Nos.	1
2.5	**Total Families**		280
3.0	Farm Families		
3.1	Big (>= 10 Acre)	Nos.	1

3.2	Medium (5-10 Acre)	Nos.	50
3.3	Small (2.5 -5 Acre)	Nos.	120
Sl.	**Particulars**	**Unit**	**Estimate**
3.4	Marginal (< 2.5 Acre)	Nos.	80
3.5	**Tot.Landed Families**	Nos.	251
4.0	**Landless families**	Nos.	29
5.0	Cultivable Area	Acre	1105
6.0	Pastures, Waste land & Forest Area	Acre	100

As can be seen from the table above the village consists of some 280 families out of which 29 families are landless. The total cultivable area according to the villagers (this includes some common property lands of the village) is to the tune of 1105 Acres. Nearly 100 families of the village resort to migration every year.

1.0 Agriculture Extension:

The HYV paddy was introduced into the village as a subsidy package (seed, fertilisers, pesticides, etc.) some 15 years back through the agricultural extension route. Cotton was introduced into the village in a similar fashion. Agriculture extension efforts of the Government have been scheme based. The recent example of cotton demonstrations (1 acre each for 5 farmers with all inputs free) proves the point. The growth of area under cotton is due to the regular visits of VAW and the JAO over the last 5 years.

2.0 Land Holding and Cropping Pattern:

The landholding pattern of the village is presented in Table - 1A below:

Table1A: Landholding Profile of the Jambahal Village

Sl	**Particulars**	**Land Holding of an Average Farmer (In Acre)**				
		Big Farmer	**Medium**	**Small**	**Marginal**	**Average**
1.0	Kharif Cropped Area	12.00	7.50	3.10	1.80	3.60
2.0	Rabi/Summer Cropped Area	0.60	0.40	0.10	0.00	0.13
3.0	Gross Cropped Area	12.60	7.90	3.20	1.80	3.73
4.0	No. of Farmers in the Class	1	50	120	80	251
5.0	Total Area under the Class	12.60	395.00	384.00	144.00	935.60

The village is constituted by one Big farmer family having a cultivable area of 12 Acres, fifty medium farmer families having an average cultivable area of 7.5 Acres each, one hundred and twenty small farmer families having an average cultivable area of 3.1 Acres each, 80 marginal farmer families having an average cultivable area of 1.8 Acres each.

Table 1B: Landholding Pattern of a few classes together in Jambahal

Sl.	Particulars	Cumm. No. in %		Cumm. Area in %	Average Area(Acre)
1	Landholding of Top	0.4%	Farmers is	1.3%	12.0
2	Landholding of Top	20.3%	Farmers is	42.9%	7.6
3	Landholding of Top	68.1%	Farmers is	84.1%	4.4
4	Landholding of Bottom	31.9%	Farmers is	15.9%	1.8
5	Landholding of Bottom	79.7%	Farmers is	57.1%	2.6
6	Landholding of Bottom	99.6%	Farmers is	98.7%	3.6

The table above reveals that only 20% of the farmers own nearly 43 % of the land indicating disparity in land holding. The cropping pattern of the village is presented in Table-2 below:

Table-2: Cropping Pattern of Jambahal Village

Sl.	Crop	Area under Different Crops(in Acre)					
		Kharif		%	Rabi/Summer		%
		2003-04	15 Yrs Back	Increase	2003-04	15 Yrs Back	Increase
1	Paddy(HYV)	350	5		0	0	
2	Paddy(Traditional)	50	695	-93%	0	0	
	Paddy Total	400	700	-43%	0	0	
3	Buta[1]	0	0		0	10	-100%
4	Cotton	300	20	1400%	0	0	
5	Tomato	5	0		5	0	
6	Mung[2]	100	0		0	50	-100%
7	Other vegetables[3]	20	30	-33%	15	5	

[1] Pigeon Pea
[2] Area keeps changing as per the availability of residual moisture
[3] Brinjal, Water melon, etc. in Kharif and Pumkin, Onion in Rabi

8	Groundnut	10	30		0	0	
9	Other Crops[4]	70	40	75%	10	30	-67%
10	**Total Cultivated Area**	**905**	**820**	10%	**30**	**95**	-68%
11	Fallow Land	200	0		0	0	
12	Total Cultivable Area	1105	820	35%	30	95	-68%

Cotton has been introduced into the cropping pattern during the last 4-5 years as a result of Government's promotional programmes. Mung cultivation during Kharif season has developed as a coping mechanism to drought conditions prevailing in the village. It being a totally rain fed village, with erratic behaviour of monsoons, the farmers have suffered heavily. Farmers have been suffering heavily for the last 6-7 years. However Cotton and Mung has withstood the drought conditions.

As can be seen from table-2 above the total cultivated area during the Kharif season increased from around 820 Acre 15 years back to 920 Acre in 2003-04. This is an increase of 35%. A lot of other categories of land such as forestland, pastures, etc. were converted into farmlands. The major changes of area has taken place in case of cotton, area under which has grown from 20 Acres some 15 years back to 300 Acres now, an increase of around 1400%. As against this, area under paddy has dropped from 700 acres some 15 years back to 400 acres now. This is a sharp fall of 43%. Coupled with this is the phenomenon of 200 acres of cultivable land being kept fallow. This indicates the gravity of the problems faced by the farmers of the village.

3.0 Irrigation and Drought Management:

The village has around 150 dug wells, which provides protective irrigation in Kharif up to 350 Acres. These dug-wells have been set-up through the farmers' own initiative or through the million-well scheme of the Government. The village also has three Katas (Traditional water harvesting structures), which irrigates up to 30 Acres during Kharif. The total irrigation potential of different sources in the village is given at Table-3 below:

[4] Other Crops like Maize, Black Gram, Arhar, Channa, Chilli, etc

Table-3: Account of Irrigation Coverage in Jambahal Village

Sl.	Source of Irrigation	Nos.	Irrigation Potential in Acre		
			Kharif [5]	Rabi	Total
1	Dug-wells	50	30	20	50
2	Katta[6]	5	0	0	0
3	Others		10	5	15
4	**Total Irrigation Potential**		**40**	**25**	**65**
5	Total Cropped Area In Acre		905	30	**935**
6	% of Irrigated Area		4%	83%	7%

The table above reveals that in Kharif only 4% of the area has some protective irrigation while during Rabi season 83 % of the cropped area is irrigated. Such a high irrigation figure in Rabi season is due to the very low crop area during Rabi season. During years of bad rainfall the Dug wells and Kattas dry up and are not in a position to provide any irrigation. The village is in chronic grip of Drought for the last 20 years due to change of climate (falling and erratic rainfall, rise in temperatures, etc.) Drought has become an annual phenomenon. It is strange that no one has tried to drill a bore well in the village so far.

There has been massive deforestation in Balangir district. Government records on the village suggest an 86-Acre forest. However, there is hardly any tree left in this piece of land. Last year through Food for Work (FFW) the UNDP organised plantation in 40 acres with Badachakunda, Sisu, Neem, etc. Rs. 4 lakh was spent for the purpose. Villagers were then happy because they got some work. But the villagers are now unhappy because all plants died. Late plantation seems to have been the reason for the failure of the programme.

Without any forest cover the temperatures are soaring, making it difficult for raising a Kharif crop. Residual moisture after Kharif is thing of the past as a result Rabi crops have gone out of the cropping pattern. The water retention capacity of the soil has fallen drastically and even if there is good rain the soil is unable to hold water for the next season.

[5] Irrigation in Kharif is mostly protective type

[6] Traditional Water Harvesting Structures used only for bathing and other purposes; these Kattas dry up in summer.

4.0 Seed:

Fifteen years back the villagers began using the so-called HYV seeds in case of Paddy, which are being supplied by the Government seed corporation. Currently around 5 different high yielding varieties (HYV) paddy varieties are under cultivation, the most popular being Swarna. The phenomenon of using seeds from government sources or from the open market has spread to other crops as well. The following table gives an estimate of the extent of dependence on government and market for seeds in the case of different crops:

Table-4: Different Sources of Seeds Used by the Farmers of Jambahal Village

Sl.	Crop	Share of Different Sources of Seed in % to Total				Seed Rate	Total Seed
		Market	Govt.	Own	Total	Kg./Acre	Used (Kg.)
1	Paddy (HYV)[7]	0%	50%	50%	100%	60.00	21000.00
2	Paddy (Traditional)	0%	0%	100%	100%	60.00	3000.00
3	Buta	0%	0%	100%	100%	8.00	3200.00
4	Cotton	100%	0%	0%	100%	0.40	0.00
5	Tomato	50%	0%	50%	100%	5.00	1500.00
6	Mung**	0%	0%	100%	100%	5.00	50.00
7	Other vegetables	70%	0%	30%	100%	0.50	50.00
8	Groundnut	0%	0%	100%	100%	60.00	2100.00
9	Other Crops	20%	10%	70%	100%	5.00	50.00
	Total Seed Used	795.00	10505.00	19650.00	30950.00		30950.00
10	Seed Used as a % to Total	2.6%	33.9%	63.5%	100.0%		

The farmers are facing several problems as regards seeds. Following are some important ones:

i. Higher Seed Rate: As against the normal use of 30 Kg. of seed Per Acre in case of paddy the farmers are seen to be using double the quantity i.e. 60 kg. /acre. This they do, as they are always apprehensive about low germination due to delay in rain. If the seed is of good quality and proper agricultural practices are followed the seed rate can

[7] HYV Paddy seeds are purchased from Govt. counters once in two years

be reduced up to 15 Kg./Acre thereby saving a lot of grains and reducing of cost of cultivation to some extent.

ii. Delay in Supply: Both the Government and market operators do not make seeds available in time. In case of paddy the Government's supply of seeds generally starts from June 7th as against farmers' requirement from Mid-May. In case of cotton the market operators are unable to supply adequate quantities of seed in time and farmers have to give nearly 50% of the cost as advance before 2-3 months.

iii. Input Intensive Seeds: The HYVs and the improved seeds supplied by the Government require heavy doses of chemical fertilizers and over time the fertiliser requirement has increased substantially.

iv. Productivity Comparison: A comparison between the yield of HYVs and traditional paddy seeds is given in the Table-5 below:

Table-5: Comparison of Productivity between HYV and Traditional Paddy Seeds in Jambahal Village

Sl.	Name of the variety used by the villagers	Crop Duration (Days)[9]	Yield[8] Qtl./Acre	Land Type
I. **High Yielding varieties (HYVs)**				
1	Swarna	130	15.0	U/M[10]
2	Lalata	130	12.0	U/M
3	Khandagiri	110	11.0	U
4	MTU-1001	155	14.0	L/M
5	Parijat	130	12.0	U/M
II**. Traditional Varieties**				
6	Ranisari		12.0	U/M
7	Jhili	130	9.0	U/M

[8] HYVs yield mentioned above are upper limits and may go up by a maximum of 10%. However the yield may fall by 25% due to lower doses of chemical fertilizers. As regards traditional varieties the variance of yield in the range of 5%

[9] Duration may vary 5-10 days on both sides

[10] Up-Lands, M: Medium Lands, L: Low Lands

The HYVs yield around 11-15 Qtl./Acre while the traditional varieties yield around 9-12 Qtl./Acre. This difference is mainly explained by the application of high doses of fertilizers which is currently at a level of 100 Kg./Acre at a cost of around Rs.700 /Acre. Also the use of high doses of pesticides to the tune of 0.8 Litres per Acre at an expenditure of Rs. 350/Acre is worth noting as regards this perceived high yields. The traditional seeds yield without fertilizers and pesticides. The only thing it requires is FYM, which if not used in case of HYVs the yield at the current level cannot be sustained. The farmers are forced to use pesticides in case of traditional seeds, which was not the case 15 years back, because of pest incidence due to HYV paddy cultivation in most lands.

v. The farmers also realise that the quality of traditional seeds has deteriorated and if the same can be improved yield of traditional varieties can be further enhanced.

vi. The cost of seeds is on the rise. A packet of cottonseeds of 'Banita' and 'Tulsi' trade name weighing 400 grams costs Rs. 550.00 in the market. The Government supplies 'Sabita' brand cottonseeds at Rs.350.00 per packet of 400 grams. The farmers are apprehensive that this price may go up to Rs.1000.00 per packet or even more in the coming years and the Government may withdraw subsidies.

vii. Falling Quality of Seeds: The hybrid cottonseeds supplied are all truthfully labeled (TL) seeds without any certification and germination guarantee. Thus there is a growing concern regarding seed quality both at the level of the Government and the open market.

viii. Dependence on the Market: With growing use of HYVs, Improved seeds and Hybrids the farmers now realise that they have become dependent upon the Government and the market. The farmers also realise that like in all other fronts the Government will stop supplying seeds and they would have to entirely depend upon the market.

5.0 Use of Fertiliser & Pesticides:

Since the introduction of the so-called HYV paddy seeds fertiliser consumption started in the village and has increased since then. In the case of HYVs and Improved seed varieties chemical fertilizers and pesticides have become an integral part of the farming practices for all crops. The farmers were of the opinion that the relatively low dose of fertiliser and

pesticide use was due to lack of irrigation and their high prices. The extent of consumption of fertilizers and pesticides is on the rise for all crops and the farmers are already complaining of falling soil fertility because of this. An estimate of use of fertilizers and pesticides along with other inputs in paddy, cotton and tomato has been shown in Table-6 below:

Table-6: Estimates of Use of Inputs for Paddy, Cotton and Tomato in Jambahal Village

Sl.	Particulars	Unit	Paddy		Cotton	Mung	Total
			HYV	Trad.nal			
1	Area Under the Crop	Acres	350.0	50.0	300.0	100.0	**800.0**
2	Seed*	Kg/Acre	60.0	60.0	0.4	5.0	
	Total Village Consumption	Kg.	21000.0	3000.0	120.0	500.0	**24620.0**
3	Fertilisers	Kg./Acre	100.0	0.0	350.0	0.0	
	Total Village Consumption	Kg.	35000.0	0.0	105000.0	0.0	**140000.0**
4	Pesticides	Litres/Acre	0.8	0.8	1.9	0.0	
	Total Village Consumption	Litres	280.0	40.0	570.0	0.0	**890.0**
Sl.	**Particulars**	**Unit**	**Paddy**	**Cotton**	**Mung**	**Total**	
			HYV	**Trad.nal**			
5	Farm Yard Manure	Cartload/Acre	1.0	2.0	4.0	4.0	
	Total Village Consumption	Cart Loads	350.0	100.0	1200.0	400.0	**2050.0**
6	Irrigation(by Lift)	Hrs /Acre	0.0	0.0	0.0	0.0	
	Total Village Consumption	Hrs	0.0	0.0	0.0	0.0	**0.0**
7	Labour	Lab.Days/Ac.	65.0	26.0	78.0	13.0	
	Total in the Village	Lab.Days	22750.0	1300.0	23400.0	1300.0	**48750.0**
8	Drought Power	Bullokday/Ac.	4.0	6.0	3.0	4.0	
	Total Village Use	Bullockdays	1400.0	300.0	900.0	400.0	**3000.0**

* Purchase of seeds from the open market or Government sources is given at Table-3

Farmers are beginning to realise that without application of fertlisers, and that too in increased quantity, productivity per unit area is falling. This has happened in the case of those farmers who have experimented with lower doses of fertilisers (as they could not purchase enough due to lack of money). The villagers do not use fertilisers in case of traditional seeds. Thus a stage has come when the HYVs, the improved seeds, and the hybrid seeds (Cotton and

vegetables) are not able to maintain the last year's yield unless higher dose of fertilizers – higher than the previous year (sometimes 3-5 kg. per Acre every year)- are applied to the soil. In this manner consumption of fertilizers has increased substantially. The use of Farm Yard Manure (FYM) has decreased over the years and the practice of producing quality FYM has been affected. Pesticide consumption has increased in paddy, both for HYV and traditional seeds. In case of cotton the use of pesticides is substantial and is increasing year after year. Framers of the village do not anymore follow the traditional pest & disease control measures, which their forefathers were practicing. This is the case in a village full of Neem trees. The Government should have used the village as a major demonstration village, but such things are not in the agenda of the Government. No Government could be more irresponsible than this.

6.0 Use of Energy & Farm Implements:

The village is yet to use electrically driven, diesel driven machines for agriculture purposes. The Table-7 below gives a summarized picture of the status of use of energy and farm implements in the village:

Table-7: Use of Energy and Implements in Jambahal Village

Sl.	Particulars	% of Total Use	Energy Used
1	Ploughing by Tractors	0%	
2	Ploughing by Bullock	100%	Bullock
3	Threshing by Elect.Thresher	0%	
4	Threshing by PaddleThresher	40%	Human
5	Threshing by Tractor	0%	
6	Threshing by Bullock	60%	Bullock
7	Ploughing by MV Plough	10%	
8	Ploughing by Wood Plough	90%	

The information available suggests that mechanization in farming has begun with the advent of pedal threshers. Substituting the wooden plough with the MV plough made of steel is an indicator to the trend of depending upon the market for farm implements. Use of hand sprayers for pesticide application is further indication of adoption of new implements for agriculture.

7.0 Cost of Cultivation:

7.1 Market Rates of Agricultural Inputs

Table-8 below is a compilation of the rates at which different agricultural inputs including farm labour is available in the village. It is instructive to note that the wage rate for farm labour is Rs.25/-per day as against the minimum wages of Rs.50 per day fixed by the Government. This single information speaks volumes on the status of agriculture in the village. The HYV paddy seed rate of Rs.6.75 per Kg. is after subsidy declared by the State Govt. for drought stricken areas. According to the villagers without subsidy the rate may touch Rs.12.00 per Kg. next year. Since nearly 90% of the farmers approach the local moneylenders for their credit needs and he charges an interest of 5% per month we have considered that to be the prevailing rate of interest for the village.

Table- 8: Unit Rates of Inputs Used for Agriculture in Jambahal Village

Sl.	Input Used	Unit	Rate	Remarks
1.0	Labour	Rs./Day	25.00	Local
2.0	**Seed:**			
2.1	Paddy (HYV)	Rs./Kg.	6.75	Purchased, Own
2.2	Paddy (Traditional)	Rs./Kg.	5.00	Own
2.3	Buta	Rs./Kg.	15.00	Own
2.4	Cotton	Rs./Gm.	1.38	Purchased
2.5	Tomato (Improved)	Rs./Gm.	2.50	Purchased, Own
2.6	Mung	Rs./Kg.	18.00	Own
2.7	Other vegetables	Rs./Gm.	5.00	Purchased (Hybrids), Own
2.8	Groundnut	Rs./Kg.	18.00	Own
2.9	Other Crops	Rs./Kg.	10.00	Purchased, Own
3.0	Plough	Rs./Day	100.00	With labour& Bullocks
4.0	**Fertilisers:**			
4.1	Urea	Rs./Kg.	5.00	Purchased
4.2	Gromor	Rs./Kg.	9.00	Purchased
4.3	MOP	Rs./Kg.	4.60	Purchased
4.4	Super(SSP)	Rs./Kg.	3.20	Purchased

4.5	DAP	Rs./Kg.	8.00	Purchased
4.6	FYM	Rs./Cart Load	100.00	Own, Purchased
5.0	**Pesticides**			
5.1	Meta Sistox	Rs./Ml.	0.30	Purchased
5.2	Hildan	Rs./Ml.	0.30	Purchased
5.3	Demicron	Rs./Ml.	0.40	Purchased
5.4	Bavistin	Rs./Gm.	1.00	Purchased
5.5	Endosulfan	Rs./Ml.	0.60	Purchased
5.6	Plantomycin	Rs./Gm.	0.35	Purchased
6.0	Irrigation (LIP)	Rs./Hr.	40.00	Private
7.0	Interest on Investment	% p.a	60%	Money lender
8.0	Land Revenue	Rs./Acre/Year	5.00	Govt.

7.2 Cost of Cultivation of Paddy:

In the following Tables we have compiled all the data that was available as regards cost of cultivation of both so-called high yielding varieties (HYV) and traditional varieties. The tables below indicate an estimate of the unit cost (per acre) incurred by an average farmer based on the data collected from several farmers of the village. Our observation was that irrespective of the size of holdings the cost of cultivation was similar. Thus these estimates truly represent the expenditure incurred in different crops irrespective of the farmer class (minor changes notwithstanding). Table-9 below gives us the estimate of cost of cultivation of HYV paddy in the village during Kharif season.

Table-9: Cost of Cultivation of HYV Paddy in Jambahal Village (Kharif)

Sl.	**Input/Activity**	**Qty./Acre**		**Rate**	**Cost**
		Unit	**Qty.Used**	**Rs./Unit**	**Rs./Acre**
1	Seed	Kg.	60.0	6.75	405.00
2	Land Preparation	Plough Day	4.0	100.00	400.00
3	Transplantation				
	- Seed Bed	Plough Day	0.5	100.00	50.00
	- Seed Bed	Labour Day	1.0	25.00	25.00
	- Seed Bed(Inputs)				50.00

	- Transplantation	Labour Day	40.0	25.00	1000.00
	Sub-Total ---->>>>>				1125.00
4	Fertiliser Application				
	- Gromor	Kg.	50	9.00	450.00
	- MOP	Kg.	0	4.60	0.00
	- Urea	Kg.	50	5.00	250.00
	- Farm Yard Manure(FYM)	Cart Load	1	100.00	100.00
	Sub-Total ---->>>>>				800.00
5	Pesticide Application	Ml/Litre	4		350.00
	- Novacron, Hildan	Litre of Water	200		
6	Irrigation(Lift Point)	Hrs	0	40.00	0.00
7	Inter-culture Operation	Labour Day	10	25.00	250.00
8	**Total Investment**	**Sum of 1 to 7**			**3080.00**
9	Interest on Investment	% of 8		60%	770.00
		Number of Months		5	
10	Harvesting				
	- Reaping and Threshing	Labour Day	10	25.00	250.00
11	Land revenue	Rs./Acre		5.00	5.00
12	**Total Cost of Cultivation**				**4105.00**

Table-9A below indicates the expenditure on farm labour for cultivating an acre of HYV paddy:

Table 9A: Labour Component in Cost of Cultivation of HYV Paddy in Jambahal

Sl.	Particulars	Labour Days	Wage Rate	Cost (Rs.)	% Own **	Own Lab. ***
1	Labour for Land Prep.*	4	25.00	100.00	51%	51.16
2	Labour for Seed Bed	1	25.00	25.00	40%	9.88
3	Labour for Transplanting	40	25.00	1000.00	31%	313.95
4	Labour for Intercultural Opn.	10	25.00	250.00	54%	136.05
5	Labour for Harvesting	10	25.00	250.00	49%	122.09
	and Threshing					

6	**Total ---->>>>**	**65**		**1625.0**	**39%**	**633.1**
7	**Labour cost as a % to Cost of Cultivation**			**40%**		

* Each Plough Day includes a labour day, ** Labour contribution of the farmer 's family as a % to Total Labour Requirement, *** Value of Own labour

Table - 9B below indicates the own labour involvement in HYV paddy farmer class-wise:

Table 9B: Share of own labour in total labour component in HYV Paddy in Jambahal

Sl.	Particulars	Share of Own Labour as a % to Total				
		Big	**Medium**	**Small**	**Marginal**	**Total**
1	Area Under Crop(Acre)	8.0	200.0	96.0	40.0	344.0
2	Labour for Land Prep. *	0%	20%	100%	100%	51%
3	Labour for Seed Bed	0%	0%	100%	100%	40%
4	Labour for Transplanting	0%	10%	50%	100%	31%
5	Labour for Intercultural Opn.	0%	40%	70%	100%	54%
6	Labour for Harvesting	0%	40%	50%	100%	49%
	and Threshing					
7	**Total ---->>>>**	0%	20%	57%	100%	39%

Table - 9C below indicates the fertiliser and pesticide component in the cost of cultivation.

Table 9C: Fertiliser & Pesticides Component in Cost of Cultivation of HYV Paddy in Jambahal

Sl.	Particulars	Quantity Used		Price		Cost Est.
		Unit	**Estimate**	**Unit**	**Rate**	**Rs./Acre**
1	Fertiliser Use	Kg./Acre	100.00	Rs./Kg.	7.00	700.00
2	Pesticide Use	Litre/Acre	0.80	Rs./Litre	437.50	350.00
3	**Total Cost of fertilisers & Pesticides**					**1050.00**
4	Fertiliser Cost as a % to Total Cost of Cultivation					**17%**
5	Pesticide Cost as a % to Total Cost of Cultivation					**9%**
6	Fertiliser & Pesticide Cost as a % to Total Cost of Cultivation					**26%**

Table-10 below indicates the cost of cultivation incurred for traditional paddy.

Table-10: Cost of Cultivation of Traditional Paddy in Jambahal Village

Sl.	Input/Activity	Qty./Acre		Rate	Cost
		Unit	Qty.Used	Rs./Unit	Rs./Acre
1	Seed	Kg.	60.0	5.00	300.00
2	Land Preparation	Plough Day	6.0	100.00	600.00
	and Broadcasting				
3	Fertiliser Application				
	- Chemical fertilisers	Kg.	0		0.00
	- Farm Yard Manure(FYM)	Cart Load	2	100.00	200.00
4	Pesticide Application	Ml/Litre	4		125.00
	- Nuracron, Hildan	Litre of Water	200		
5	Irrigation(Lift Point)	Hrs	0	40.00	0.00
7	Inter-culture Operation	Labour Day	10.0	25.00	250.00
8	**Total Investment**	**Sum of 1 to 7**			**1475.00**
9	Interest on Investment	% of 7		60%	442.50
		Number of Months		6	
10	Harvesting				
	- Reaping and Threshing	Labour Day	10	25.00	250.00
11	Land revenue	Rs./Acre		5.00	5.00
12	**Total Cost of Cultivation**				**2172.50**

Table-10A below indicates the labour component in the cost of cultivation of traditional paddy:

Table 10A: Labour Component in Cost of Cultivation of Traditional Paddy in Jambahal Village

Sl.	Particulars	Labour Days	Wage Rate	Cost (Rs.)	% Own**	Own Lab.***
1	Labour for Land Prep.*	6	25.00	150.00	90%	135.00
2	Labour for Intercultural Opn.	10	25.00	250.00	76%	189.00
3	Labour for Harvesting	10	25.00	250.00	66%	165.00

	and Threshing					
4	**Total ---->>>>**	**26**		**650.0**	**75%**	**489.0**
5	**Labour cost as a % to Cost of Cultivation**			**30%**		

* Each Plough Day includes a labour day, ** Labour contribution of the farmer 's family as a % to total labour requirement, *** Value of Own labour

Table-10B below indicates the share of own labour involvement in cultivating traditional paddy:

Table 10B: Share of Own labour in Total labour Component in Traditional Paddy in Jambahal

Sl.	**Particulars**	**Share of Own Labour as a % to Total**				
		Big	**Medium**	**Small**	**Marginal**	**Total**
1	Area Under Crop(Acre)	0.0	10.0	24.0	16.0	50.0
2	Labour for Land Prep. *	0%	50%	100%	100%	90%
3	Labour for Intercultural Opn.	0%	50%	70%	100%	76%
4	Labour for Harvesting	0%	50%	50%	100%	66%
	and Threshing					
5	**Total ---->>>>**	0%	50%	69%	100%	75%

7.3 Cost of cultivation of Cotton:

Commercial scale Cotton cultivation is fairly new to the village, introduced some 4-5 years back. Table-11 below indicates the cost of cultivation incurred for Cotton. Farmers are apprehensive that due to increase in rate of seed and need for application of extra doses of fertilisers and pesticides in the near future the cost of cultivation shall increase substantially.

Table-11: Cost of Cultivation of Cotton in Jambahal Village

Sl.	**Input/Activity**	**Qty./Acre**		**Rate**	**Cost**
		Unit	**Qty.Used**	**Rs./Unit**	**Rs./Acre**
1	Seed	Gm.	400.0	1.38	550.00
2	Land Preparation	Plough Day	3.0	100.00	300.00
3	Planting	Labour Day	10.0	25.00	250.00

4	Fertiliser Application				
	- MOP	Kg.	100	4.60	460.00
	- Super	Kg.	150	3.20	480.00
	- Urea	Kg.	100	5.00	500.00
	- Farm Yard Manure(FYM)	Cart Load	4	100.00	400.00
	Sub-Total ---->>>>>				1840.00
5	Pesticide Application				
	- Meta Siston	Ml.	400	0.30	120.00
	- Hildan	Ml.	500	0.30	150.00
	- Demicron	Ml.	500	0.40	200.00
	- Others	Ml.	500		200.00
	- Application Cost	Labour Day	5	25.00	125.00
	Sub-Total ---->>>>>				795.00
6	Inter-culture Operation	Labour Day	16	25.00	400.00
7	Hoeing(On Contract)	Labour Day	24	25.00	600.00
8	**Total Investment**	**Sum of 1 to 7**			**4735.00**
9	Interest on Investment	% of 8		60%	1420.50
		Number of Months		6	
10	Harvesting				
	- Reaping and Threshing	Labour Day	20	25.00	500.00
11	Land revenue	Rs.		5.00	5.00
12	**Total Cost of Cultivation**				**6660.50**

Table-11A below indicates the labour component in the cost of cultivation of Cotton:

Table 11A: Labour Component in Cost of Cultivation of Cotton

Sl.	Particulars	Labour Days	Wage Rate	Cost (Rs.)	% Own **	Own Lab. ***
1	Labour for Land Prep. *	3.0	25.00	75.00	98%	73.26
2	Labour for Planting	10.0	25.00	250.00	69%	171.51
3	Labour for Pesticide Spray	5.0	25.00	125.00	40%	49.42
4	Labour for Inter-culture	16.0	25.00	400.00	60%	240.93
5	Labour for Hoeing	24.0	25.00	600.00	60%	361.40

6	Labour for Harvesting	20	25.00	500.00	80%	401.16
	and Threshing					
7	**Total ---->>>>**	**78.0**		**1950.0**	**67%**	**1297.7**
8	**Labour cost as a % to Cost of Cultivation**			**29%**		

* Each Plough Day includes a labour day, ** The labour contribution of the farmer 's family as a % to Total labour requirement, *** Value of Own labour

Table-11B below indicates the share of own labour involvement in cultivating Cotton:

Table 11B: Share of Own labour in Total labour Component in Cotton in Jambahal Village

Sl.	Particulars	Share of Own Labour as a % to Total				
		Big	**Medium**	**Small**	**Marginal**	**Total**
1	Area Under Crop(Acre)	3.0	110.0	120.0	64.0	297.0
2	Labour for Land Prep. *	0%	100%	100%	100%	98%
3	Labour for Planting	0%	50%	100%	100%	69%
4	Labour for Pesticide Spray	0%	0%	100%	100%	40%
5	Labour for Intercultural Opn.	0%	50%	70%	100%	60%
6	Labour for Hoeing	0%	50%	70%	100%	60%
7	Labour for Harvesting	0%	70%	100%	100%	80%
	and Threshing					
8	**Total ---->>>>**	0%	54%	85%	100%	67%

Table-11C below indicates the fertiliser and pesticide component in the cost of cultivation of Cotton:

Table 11C: Fertiliser & Pesticides Component in Cost of Cultivation of Cotton in Jambahal

Sl.	Particulars	Quantity Used		Price		Cost Est.
		Unit	Estimate	Unit	Rate	Rs./Acre
1	Fertiliser Use	Kg./Acre	350.00	Rs./Kg.	4.11	1440.00
2	Pesticide Use	Litre/Acre	1.90	Rs./Litre	352.63	670.00
3	**Total Cost of Fertilisers & Pesticides**					**2110.00**
4	Fertiliser Cost as a % to Total Cost of Cultivation					**22%**
5	Pesticide Cost as a % to Total Cost of Cultivation					**10%**
6	Fertiliser & Pesticide Cost as a % to Total Cost of Cultivation					**32%**

Some farmers opined that during the last 3-4 years they have actually incurred double the above-mentioned cost of pesticides.

7.4 Cost of Cultivation of Mung:

Mung has emerged as an important crop in the last 4-5 years as a response to drought situation. Table 12 below indicates the cost of cultivation incurred for Mung:

Table-12: Cost of Cultivation of Mung in Jambahal Village

Sl.	Input/Activity	Qty./Acre		Rate	Cost
		Unit	Qty.Used	Rs./Unit	Rs./Acre
1	Seed	Kg.	5.0	18.0	90.00
2	Land Preparation	Plough Day	4.0	100.00	400.00
4	Fertiliser Application				
	- Farm Yard Manure(FYM)	Cart Load	4	100.00	400.00
	Sub-Total ---->>>>>				400.00
5	Pesticide Application				
6	Inter-culture Operation	Labour Day	4	25.00	100.00
7	Irrigation(Lift Point)	Hrs	0	40.00	0.00
8	**Total Investment**	**Sum of 1 to 7**			**990.00**
9	Interest on Investment	% of 8		60%	198.00

		No. of Months		4	
10	Harvesting	Labour Day	5	25.00	125.00
11	Land revenue	Rs.		5.00	5.00
12	**Total Cost of Cultivation**				**1318.00**

Table-12A below indicates the labour involvement in cultivating Mung

Table 12A: Labour Component in Cost of Cultivation of Mung in Jambahal Village

Sl.	Particulars	Labour Days	Wage Rate	Cost(Rs.)	% Own **	Own Lab. ***
1	Labour for Land Prep. *	4	25.00	100.00	50%	50.00
2	Labour for Pesticide Spray	0	25.00	0.00	0%	0.00
3	Labour for Inter-culture	4	25.00	100.00	0%	0.00
4	Labour for Harvesting	5	25.00	125.00	50%	62.50
5	**Total ---->>>>**	**13.0**		**325.0**	**35%**	**112.5**
8	**Labour cost as a % to Cost of Cultivation**			**25%**		

* Each Plough Day includes a labour day, ** The labour contribution of the farmer 's family as a % to Total labour requirement, *** Value of Own labour

Table-12B below indicates the share of own labour involvement in cultivating Mung farmer class-wise.

Table 12B: Share of Own labour in Total labour Component in Mung(Kharif) in Jambahal Village

Sl.	Particulars	Share of Own Labour as a % to Total				
		Big	Medium	Small	Marginal	Total
1	Area Under Crop (Acre)	0.0	5.0	0.0	0.0	5.0
2	Labour for Land Prep.	0%	50%	100%	100%	50%
3	Labour for Pesticide Spray	0%	0%	100%	100%	0%
4	Labour for Intercultural Opn.	0%	0%	50%	50%	0%
5	Labour for Harvesting	0%	50%	100%	100%	50%
6	**Total ---->>>>**	0%	35%	85%	85%	35%

7.5 Impact of Policies On Cost of Cultivation:

The cost of cultivation of all crops has risen with the implementation of Government policies in agriculture. Although we have not done a time-series analysis, but by comparing the cost of cultivation of traditional paddy with that of HYV paddy the increase is clear as can be seen from Table-10C below:

Table-12C: Cost of Cultivation of Traditional Paddy Vs. HYV Paddy in Jambahal Village

Sl.	Cost Heads	Traditional	HYV	Cost Difference	
		Paddy (Rs./Acre)	Paddy (Rs./Acre)	Rs./Acre	in %
1	Seed	300.00	405.00	105.00	35%
2	Labour	650.0	1625.0	975.00	150%
3	Chemical Fertiliser	0.00	700.00	700.00	
4	Farm Yard Manure(FYM)	200.00	100.00	-100.00	-50%
5	Chemical Pesticide	125.00	350.00	225.00	180%
6	Irrigation	0.00	0.00	0.00	
7	Others(Harvesting, etc.)	897.50	925.00	27.50	3%
8	**Total Cost of Cultivation**	2172.50	4105.00	1932.50	89%

The cost of cultivating paddy using the HYV seeds supplied by the Government in the village is Rs. 4105 per Acre as against the cost of cultivating paddy using traditional seeds (retained by the farmer over generations together), which is Rs. 2172 per Acre. Thus cost of cultivating HYV paddy is a whopping 89 % more than what is incurred for traditional paddy. If compared to the traditional paddy crop some 15 years back this comparison in cost of cultivation will definitely be further more. The major additional costs are on account of increase in labour involvement and the use of chemical fertilisers.

The HYV paddy involves transplantation (which is labour intensive and requires nearly 30 labour days per Acre) as against broadcasting of seeds in the case of traditional seeds. While this is a positive contribution of HYV seed based agriculture for the agriculture labourers it has put heavy burden on the farmer as the paddy prices have not kept pace with the increase in cost of cultivation. The use of chemical fertilizers have come with the introduction of HYV seeds by the Government and has added to the cost of cultivation to the extent of Rs. 700 per

Acre. Pesticides to the tune of Rs.350 per Acre is being spent by the farmer for HYV paddy which is entirely a new cost for the farmer as a direct consequence of the Government policies of promoting HYV seeds and use of chemical fertilizers. This has also forced the farmer to use some pesticides in case of traditional paddy(Rs.125/Acre) because pests and diseases have spread all across because of HYV seeds. Table 10D below brings out the comparison between cost of cultivation of Traditional paddy and Mung on the one hand and that for the major crops (HYV Paddy & Cotton):

Table-12D: Analysis of Cost of Cultivation in Agriculture in Jambahal Village

Sl.	**Particulars**	**Unit**	**Traditional**			**HYV**	Av. Of	Av. Of
			Paddy	**Mung**	**Cotton**	**Paddy**	4,5,6,6	6 & 7
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
A. Average Cost of Cultivation of Diff. Crops								
1	Seed	Rs./Acre	300.00	90.00	550.00	405.00	336.25	477.50
2	Labour	Rs./Acre	650.00	325.00	1950.00	1625.00	1137.50	1787.50
3	Fertiliser	Rs./Acre	0.00	0.00	1440.00	700.00	535.00	1070.00
4	Pesticides	Rs./Acre	200.00	0.00	670.00	350.00	305.00	510.00
5	Irrigation	Rs./Acre	0.00	0.00	0.00	0.00	0.00	0.00
6	Interest	Rs./Acre	442.50	198.00	1420.50	770.00	707.75	1095.25
7	Others	Rs./Acre	580.00	705.00	630.00	255.00	542.50	442.50
8	Total	Rs./Acre	2172.50	1318.00	6660.50	4105.00	3564.00	5382.75
B. Share of Diff. Components in Total Cost of Cultivation of Diff. Crops								
1	Seed	in %	13.8%	6.8%	8.3%	9.9%	9.4%	8.9%
2	Labour	in %	29.9%	24.7%	29.3%	39.6%	31.9%	33.2%
3	Fertiliser	in %	0.0%	0.0%	21.6%	17.1%	15.0%	19.9%
4	Pesticides	in %	9.2%	0.0%	10.1%	8.5%	8.6%	9.5%
5	Irrigation	in %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
6	Interest	in %	20.4%	15.0%	21.3%	18.8%	19.9%	20.3%
7	Others	in %	26.7%	53.5%	9.5%	6.2%	15.2%	8.2%
8	Total	in %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Where as there is no expenditure on fertilisers in the case of traditional paddy and Mung, in the rest of the two important crops fertiliser expenditure accounts on an average 20% of the cost of cultivation. Expenditure on pesticides which is about 9.2% for traditional paddy(actually it would be zero if HYV paddy were not grown side by side traditional paddy) and 0% in Mung it is more than 9.5% for the rest of the important crops. Farmers are very apprehensive of its rise in the years to come.

Farmers are very much worried about the fast increase of cost of seeds. The cotton seeds which were being sold at Rs. 200-300 per packet of 400 grams a few years back is today Rs.550 per packet and the seed dealers have told the farmers to get ready to pay Rs.1000 per packet soon. Vegetable seed prices are steadily rising every year. Farmers are apprehensive of increase of fertiliser prices with the imminent withdrawal of subsidies by the Government.

8.0 Agricultural Credit:

The farmers of the village used to avail crop loans from the village based Agriculture Credit Co-operative. However, almost all farmers of the village have become defaulters since the last 10 years and are unable to avail credit from this co-operative, a fact known very well by all Government functionaries. So far no step has been taken to address this situation and make crop loans available through institutional arrangements. More than 90% of the farmers are, therefore, forced to avail credit from local moneylenders(and at times from input dealers- a phenomenon which has recently started in the area) at an exorbitant interest rate of around 60% to 100% per annum. Table 13 below sums up the farmer's problems related to agricultural credit:

Table-13: Analysis of Credit Involvement in Agriculture in Jambahal Village

Sl.	Particulars	Unit	Paddy		Cotton	Mung	Total
			HYV	Traditional			
I. Prevailing Situation							
1	Credit Requirement *	Rs./Acre	3080.00	1475.00	4735.00	990.00	3636.83
2	Area Under the Crop(s)	Acre	350.00	50.00	300.00	10.00	710.00
3	**Total Credit requirement**	Rs. Lakhs	10.78	0.74	14.21	0.10	**25.82**
4	Interest Incurred *****	Rs./Acre	770.00	442.50	1420.50	198.00	
5	Cost of Cultivation	Rs./Acre	4105.00	2172.50	6660.50	1318.00	
6	Total Cost Incurred	Rs. Lakhs	14.37	1.09	19.98	0.13	35.57

7	Credit as % to Cost of Cult.	%	75.0%	67.9%	71.1%	75.1%	72.6%
8	Interest as % to Cost of Cult.	%	18.8%	20.4%	21.3%	15.0%	20.2%
9	**Total Interest Paid / Annum**	Rs. Lakhs	2.70	0.22	4.26	0.02	**7.20**
II. If Institutional Credit is Made Available							
10	Interest to be Incurred **	Rs./Acre	115.50	66.38	213.08	29.70	
11	Interest Saving per Acre	Rs./Acre	654.50	376.13	1207.43	168.30	
12	Total Interest to be Paid/Yr.	Rs. Lakhs	0.40	0.03	0.64	0.00	1.08
13	Total Savings on account	Rs. Lakhs	2.29	0.19	3.62	0.02	**6.12**
	of Interest Payment						

* As Estimated in Tables 9,10,11 and 12(Credit requirement has been assumed as Investment before harvesting) ** Assuming at Current level of Interest Rate declared by the Government:
No. of Months of Investment -->>> 5 6 6 4

If bank loans are available at 9% as has been declared by the Central Government the farmers would be able to save on account of interest payment to the extent of Rs.654/-, 376/-, 1207/- and 168/- per acre in the cultivation of HYV paddy, Traditional paddy, Cotton and Mung respectively. And in total the farmers of the village would save a whopping Rs.6.2 Lakhs per annum, an amount that gets into the pocket of the moneylender due to the faulty policies of the Government. This is a mind boggling figure considering that the total gross agricultural gross of the whole village with 280 families is Rs. 22 lakhs at an average of about Rs.7860 per family and the net surplus being Rs. 13.3 lakh at an average of Rs.4750 per family. In such a situation question arises regarding the justification on the part of the Government to promote cotton farming, which is a capital-intensive crop. It is clear the farmers of the village are being burdened.

9.0 Crop Productivity:

The Table-14 below indicates an account of productivity of different crops in 2003-04 in comparison to what was the productivity some 15 years back:

Table-14: Productivity of Different Crops in Jambahal Village

Sl.	Crop	Productivity (in Qtl./Acre)					
		Kharif		%	Rabi/Summer		%
		2003-04	15 Yrs Back	Change	2003-04	15 Yrs Back	Change
1	Paddy (HYV)	9.0	12.0	-25%	0.0	0.0	
2	Paddy (Traditional)	7.5	10.0	-25%	0.0	0.0	
3	Buta	0.0	0.0			3.0	
4	Cotton	5.0	2.0	150%	0.0	0.0	
5	Tomato	40.0	15.0	167%	50.0	20.0	150%
6	Mung	2.0	0.0		2.0	3.0	-33%
7	Other Vegetables	10.0	5.0	100%	20.0	15.0	33%
8	Groundnut	5.0	8.0	-38%			
9	Other Crops	3.0	5.0	-40%	7.0	10.0	-30%

Farmers were of the view that the productivity of traditional paddy was around 15 Qtl/Acre some 20-25 years back. Of late there has been a fall and currently it is around 7.5 Qtl./Acre. According to the farmers deterioration of soil fertility and seed quality are the main reasons. With the advent of HYV seeds there was some improvement in yield but the same has decreased over the years. Continuous use of chemical fertilizers and pesticides and massive soil erosion are considered as the main causes behind falling soil fertility. Quality of seeds is also suspect. Farmers are unable to buy HYV seeds after every 3 years (as prescribed by the Govt.) and even the quality standard of seeds supplied by the Government has been falling. In the case of cotton, the productivity has increased from some 2 Qtl./Acre(when some farmers were cultivating cotton on a little larger scale) to the current level of 5 Qtl./Acre. This has been possible by the use of hybrid seeds and heavy doses of chemical fertilizers & pesticides. In case of Rabi crops the productivity of Mung has fallen.

10.0 Marketing & Prices:

The village has substantial marketable surplus in cotton & Mung. The prices received by the farmers at the peak period of marketing over the years are placed at Table 15 below|:

Table-15: Prices of important agricultural commodities during peak marketing period in Jambahal Village

Sl.	Crop	Price Received by Farmers(Rs./Qtl.) in Diff. Years				
		1999-00	2000-01	2001-02	2002-03	2003-04
I. Kharif Season:						
1	Paddy(HYV)	350.00	350.00	350.00	400.00	400.00
2	Paddy(Traditional)	350.00	350.00	350.00	420.00	430.00
3	Buta	0.00	0.00	0.00	0.00	0.00
4	Cotton(Hybrid)	1800.00	2100.00	2200.00	1800.00	2300.00
5	Tomato(Improved)	400.00	300.00	300.00	250.00	300.00
6	Mung(Traditional)	900.00	800.00	900.00	950.00	1000.00
7	Brinjal	200.00	250.00	250.00	300.00	250.00
8	Groundnut(Own Seed)	1300.00	1350.00	1400.00	1400.00	1500.00
9	Sesame	1550.00	1500.00	1500.00	1400.00	1500.00
II. Rabi/Summer Season:						
1	Paddy(HYV)	0.00	0.00	0.00	0.00	0.00
2	Paddy(Traditional)	0.00	0.00	0.00	0.00	0.00
3	Buta	900.00	900.00	950.00	1000.00	1100.00
4	Cotton(Hybrid)	0.00	0.00	0.00	0.00	0.00
5	Tomato(Improved)	100.00	75.00	75.00	100.00	100.00
6	Mung(Traditional)	900.00	900.00	950.00	1000.00	1000.00
7	Pumpkin	175.00	200.00	200.00	250.00	200.00
8	Groundnut(Own Seed)	1100.00	1100.00	1100.00	1200.00	1200.00

In spite of low production of paddy the village has some surplus to sell. Since the villagers migrate immediately after the harvesting is over, they like to sell off as soon as possible. For the small and marginal farmers selling a part of their produce is common practice for meeting some urgent expenses and repayment of loan. Thus a sizeable quantity of paddy is up for sale immediately after harvest. However the farmers of the village, year after year, get cheated by the millers' agents and receive prices far below the Minimum Support Price (MSP) declared by the Government. As can be seen from the above table price of Paddy has marginally increased over the recent years. However, the ruling prices have been consistently lower than

the minimum support price(MSP) for paddy at least to the extent of Rs. 150 per quintal. As against the MSP of Rs.550.00 per quintal declared by the Government of India for the year 2003-04 the actual price that the farmers of the village have received is in the range of Rs. 400 per quintal. Although the Government claims an effective MSP based procurement operation through FCI in Balangir district according to the villagers the entire MSP operation is conducted so as to suit & benefit the Rice Millers, who act as the agents of FCI. According to the farmers of the village, during 2003-04 Kharif paddy procurement season the millers agents purchased paddy in the local so-called regulated market committee's (RMC) yard only for 2-3 days thereafter which they avoided purchases on the ground that paddy quality is below FAQ standard. After this initial 2-3 days procurement through the RMC the millers' agents lifted paddy directly from the villages. Both in the case of market yard and the village level procurement, farmers have to suffer from huge deductions by the millers' agents. Further the farmers do not get the entire payment as cash and substantial portion of the payment is delayed for 2-3 months. All this has been happening year after year and the farmers express their helplessness. The State Government functionaries and the RMC functionaries have been perpetuating such a situation. According to the villagers the problems that they have been facing in relation to marketing of paddy can be summarised as follows:

i. The villagers have no control over the market yard that have been established near Jogimunda and do not understand the way it functions.
ii. The villagers do not have any control over the MSP operation and do not understand the exact nature of the role of different agencies and the Government as regards MSP operation.
iii. The Government has not taken any adequate action so as to stop exploitation by the millers and their agents.
iv. The millers, the Government and the FCI officials seem to be hand in gloves, who all make money at the cost of the farmers.

In case of cotton the price received is substantially high in comparison to other villages as the village boasts of high cotton acreage. This happened with the commencement of cotton procurement at the Jogimunda Market yard. Cotton Corporation of India (CCI) and Ambika Agro Industries Corporation are the major buyers of cotton at the Market yard. A good price for cotton helps the Government officials in achieving their targets fixed by their seniors and therefore they become very active in supervising the RMCs. It is our understanding that the

Government and trade are doing so to promote Cotton in a big way in Balangir district and other western Orissa districts. In order to achieve higher acreage under cotton for the next 2-3 years they would continue to ensure a reasonable price and once the crop is established the Government would forget the price ensuring mechanisms. The problems faced in case of paddy are expected in cotton very soon. In fact farmers are already complaining of substantial deductions on account of quality, which the system as regards which they are unaware.

Lack of institutional mechanisms that are under the control of the farmers will continue to disfavour farmers and the terms of trade in agriculture will always remain against the farmer.

11.0 Surplus from Farming:

11.1 Farm Surplus of a Big Farmer:

The Table-16 below captures the farm surplus of an average big farmer of the village.

Table-16: Estimates of Surplus of Big Farmers of Jambahal Village

Sl.	Crop	Crop Area (Acre)	Expenditure in Farming (In Rs.)	Surplus from farming (Rs./Acre)			Total SurplusRs.)	
				Own Labor	Net	Incl. Own Labr	Incl. Labour	Net
				*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy(HYV)	8.00	32840.00	0.00	-505.00	-505.00	-4040.00	-4040.00
2	Paddy(Traditional)	0.00	0.00	0.00	1052.50	1052.50	0.00	0.00
2	Buta	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Cotton(Hybrid)	3.00	19981.50	0.00	4839.50	4839.50	14518.50	14518.50
4	Tomato(Improved)	0.00	0.00	32.50	4000.00	4032.50	0.00	0.00
5	Mung(Traditional)	0.50	659.00	0.00	682.00	682.00	341.00	341.00
6	Other Vegetables	0.00	0.00	240.00	-1000.00	-760.00	0.00	0.00
7	Groundnut(Own Seed)	0.00	0.00	0.00	3500.00	3500.00	0.00	0.00
8	Other Crops	0.50	1500.00	120.00	-900.00	-780.00	-390.00	-450.00
9	Sub-Total -----	12.00	54980.50				10429.50	10369.50

	>>>>							
II. Rabi/Summer Season:								
1	Paddy(HYV)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Paddy(Traditional)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Buta	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Cotton(Hybrid)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Tomato(Improved)	0.00	0.00	280.00	-2000.00	-1720.00	0.00	0.00
5	Mung(Traditional)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Other Vegetables	0.10	1100.00	440.00	-1000.00	-560.00	-56.00	-100.00
7	Groundnut(Own Seed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Other Crops	0.50	1750.00	140.00	0.00	140.00	70.00	0.00
9	Sub-Total ----- >>>>	0.60	2850.00				14.00	-100.00
III	**TOTAL**	**12.60**	**57830.50**				**10443.50**	**10269.50**
IV	**Return on Investment (Surplus/Investment) as a %**						**18.06%**	**17.76%**

* Share of Own Lab.as a % to Total Labour Cost for Paddy (HYV and Trad.), Cotton, Mung is as per above tables.

For other Crops

Buta	10%
Tomato	10%
Other Vegetables	10%
Groundnut (Own Seed)	0%
Other Crops	10%

As can be seen from the above table the net surplus from farming of big farmer with a gross cropped area of 12.6 Acres is a meager Rs.10269 per annum which works out less than Rs815/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 10443 per annum. In the major crop of paddy his return from farming is

negative and the only purpose for which he continues to grow paddy is to ensure the availability of the staple food that is rice.

11.2 Farm Surplus of Medium Farmers:

The Table-17 below captures the farm surplus of an average medium farmer of the village.

Table-17: Estimates of Surplus of Medium Farmers of Jambahal Village

Sl.	Crop	Crop Area (Acre)	Expenditure in Farming	Earning from farming Rs./Acre)			Total Earning(Rs.)	
				Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy(HYV)	4.00	16420.00	320	-505.00	-185.00	-740.00	-2020.00
2	Paddy(Traditional)	0.20	434.50	325	1052.50	1377.50	275.50	210.50
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton(Hybrid)	2.20	14653.10	1050	4839.50	5889.50	12956.90	10646.90
4	Tomato(Improved)	0.10	800.00	112.5	4000.00	4112.50	411.25	400.00
5	Mung(Traditional)	0.50	659.00	105.44	682.00	787.44	393.72	341.00
6	Other Vegetables	0.00	0.00	480	-1000.00	-520.00	0.00	0.00
7	Groundnut(Own Seed)	0.00	0.00	320	3500.00	3820.00	0.00	0.00
8	Other Crops	0.50	1500.00	240	-900.00	-660.00	-330.00	-450.00
9	Sub-Total ----->>>>	7.50	34466.60				12967.37	9128.40
II. Rabi/Summer Season:								
1	Paddy(HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00

2	Paddy(Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton(Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato(Improved)	0.10	700.00	112.5	-2000.00	-1887.50	-188.75	-200.00
5	Mung(Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
6	Other Vegetables	0.10	1100.00	880	-1000.00	-120.00	-12.00	-100.00
7	Groundnut(Own Seed)	0.00	0.00	0	0.00	0.00	0.00	0.00
8	Other Crops	0.20	700.00	280	0.00	280.00	56.00	0.00
9	Sub-Total ----->>	0.40	2500.00				-144.75	-300.00
III	**TOTAL**	**7.90**	**36966.60**				**12822.62**	**8828.40**
IV	**Return on Investment (Surplus/Investment) as a %**						**22.17%**	**15.27%**

* Share of Own Lab.as a % to Total Labour Cost for Paddy(HYV and Trad.), Cotton, Mung is as per above tables

For other Crops

Buta	20%
Mung(Traditional)	20%
Other Vegetables	20%
Groundnut(Own Seed)	20%
Other Crops	20%

As can be seen from the above table the net income from farming of a medium farmer of the village Jambahal with a gross cropped area of 7.9 Acres is a just around Rs.8828/- per annum which works out to be around Rs1117/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 12822 per annum. In the major crop of paddy his net return from farming is negative.

11.3 Farm Surplus of Small Farmers:

The Table-18 below captures the farm Surplus of an average small farmer of the village.

Table-18: Estimates of Surplus of Small farmers of Jambahal Village

Sl.	Crop	Crop Area (Acre)	Exp. in Farming	Surplus from farming (Rs./Acre)			Total Surplus(Rs.)	
				Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy (HYV)	0.80	3284.00	925	-505.00	420.00	336.00	-404.00
2	Paddy (Traditional)	0.20	434.50	450	1052.50	1502.50	300.50	210.50
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	1.00	6660.50	1650	4839.50	6489.50	6489.50	4839.50
4	Tomato (Improved)	0.00	0.00	275	4000.00	4275.00	0.00	0.00
5	Mung (Traditional)	0.50	659.00	527.2	682.00	1209.20	604.60	341.00
6	Other Vegetables	0.20	1200.00	1680	-1000.00	680.00	136.00	-200.00
7	Groundnut (Own Seed)	0.10	400.00	1280	3500.00	4780.00	478.00	350.00
8	Other Crops	0.30	900.00	840	-900.00	-60.00	-18.00	-270.00
9	Sub-Total	3.10	13538.00				8326.60	4867.00

II. Rabi/Summer Season:								
1	Paddy (HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Paddy (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato (Improved)	0.00	0.00	275	-2000.00	-1725.00	0.00	0.00
5	Mung (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
6	Other Vegetables	0.10	1100.00	3080	-1000.00	2080.00	208.00	-100.00
7	Groundnut (Own Seed)	0.00	0.00	0	0.00	0.00	0.00	0.00
8	Other Crops	0.00	0.00	980	0.00	980.00	0.00	0.00
9	Sub-Total	0.10	1100.00				208.00	-100.00
III	**TOTAL**	**3.20**	**14638.00**				**8534.60**	**4767.00**
IV	**Return on Investment(Surplus/Investment) as a %**						**14.76%**	**8.24%**

* Share of Own Labour as a % to Total Lab.Cost for Paddy(HYV and Trad.), Cotton, Mung is as per above tables

For other Crops

Buta	100%
Mung(Traditional)	100%
Other Vegetables	70%
Groundnut (Own Seed)	80%
Other Crops	70%

As can be seen from the above table the net surplus from farming of a small farmer of the village Jambahal with a gross cropped area of 3.2 Acres is around Rs.4767/- per annum which works out to be around Rs1489/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 8534 per annum. In the major crop of paddy his net return from farming is negative.

11.4 Farm Surplus of Marginal farmers:

The Table-19 below captures the farm surplus of an average marginal farmer of the village.

Table-19: Estimates of Surplus of Marginal farmers of Jambahal Village

Sl.	Crop	Crop Area (Acre)	Expenditure in Farming	Surplus from farming (Rs./Acre)			Total Surplus(Rs.)	
				Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy (HYV)	0.50	2052.50	1625	-505.00	1120.00	560.00	-252.50
2	Paddy (Traditional)	0.20	434.50	650	1052.50	1702.50	340.50	210.50
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.80	5328.40	1950	4839.50	6789.50	5431.60	3871.60
4	Tomato (Improved)	0.00	0.00	275	4000.00	4275.00	0.00	0.00
5	Mung (Traditional)	0.20	263.60	527.2	682.00	1209.20	241.84	136.40
6	Other Vegetables	0.00	0.00	2400	-1000.00	1400.00	0.00	0.00
7	Groundnut (Own Seed)	0.00	0.00	1280	3500.00	4780.00	0.00	0.00
8	Other Crops	0.10	300.00	1200	-900.00	300.00	30.00	-90.00
9	Sub-Total	1.80	8379.00				6603.94	3876.00
II. Rabi/Summer Season:								
1	Paddy (HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Paddy (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato (Improved)	0.00	0.00	275	-2000.00	-1725.00	0.00	0.00
5	Mung (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
6	Other Vegetables	0.00	0.00	4400	-1000.00	3400.00	0.00	0.00
7	Groundnut (Own	0.00	0.00	0	0.00	0.00	0.00	0.00

	Seed)							
8	Other Crops	0.00	0.00	1400	0.00	1400.00	0.00	0.00
9	Sub-Total	0.00	0.00				0.00	0.00
III	**TOTAL**	**1.80**	**8379.00**				**6603.94**	**3876.00**
IV	**Return on Investment(Surplus/Investment) as a %**						**11.42%**	**6.70%**

* Share of Own Labour as a % to Total Lab.Cost for Paddy(HYV and Trad.), Cotton, Mung is as per above tables

For other Crops	
Buta	100%
Mung(Traditional)	100%
Other Vegetables	100%
Groundnut	
(Own Seed)	80%
Other Crops	100%

As can be seen from the above table the net income from farming of a medium farmer of the village Jambahal with a gross cropped area of 1.8 Acres is around Rs.3876/- per annum which works out to be around Rs2153/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to Rs. 6604/- per annum.

11.5 Comparison Between Different Class of Farmers:

Table 20 below gives a comparative picture of farm surpluses of different class of farmers:

Table 20: Comparative Farm Surpluses in Jambahal Village

Sl.	Profile of an Average farmer	Big	Medium	Small	Marginal
1	Net Cropped Area(Acre)	12.00	7.50	3.10	1.80
2	Gross Cropped Area(Acre)	12.60	7.90	3.20	1.80
3	Total Net Surplus(Rs./Annum)	10269	8828	4767	3876
4	Total Gross Surplus(Rs./Annum)	10443	12822	8534	6604
5	Net Surplus per Acre(Rs.)	815	1117	1487	2153
6	Gross Surplus per Acre(Rs.)	829	1623	2667	3669

Table-21 reveals a very important aspect of Indian farming. Small and marginal farmers are seen to be more efficient farmers as the net surplus per acre in case of small and marginal farmers is substantially higher than that of Big and medium farmers. This is due to better crop combination and efficient farm management.

The Table-21 below indicates the farm surpluses of a few classes of farmers together.

Table 21: Farm Surplus Pattern of a few classes together in Jambahal Village

Sl.	**Particulars**		**Cumulative as % to Total**	
		Farmer	***Gross***	***Net***
1	Surplus of Top	0.4%	0.5%	1%
2	Surplus of Top	20.3%	30%	34%
3	Surplus of Top	68.1%	76%	77%
4	Surplus of Bottom	31.9%	24%	23%
5	Surplus of Bottom	79.7%	70%	66%
6	Surplus of Bottom	99.6%	94%	89%

The table above reveals that gross farm surplus of top 20% of farmers is about 30% of the total farm surplus of the village and that of top 68% is 76%. Although this indicates some disparity of income but it is not very acute.

11.6 Total Farm Surplus of the Village:

The Table 22 below gives us an estimate of the total farm surplus of the village.

Table 22 : Agricultural Income of the Jambahal Village

Sl.	**Farmer Class**	**Income/Farmer In Rs.**		**Tot.Income of Class in Rs.' 000**	
1	Big (>= 10 Acre)	10443.50	10269.50	10.44	10.27
2	Medium (5-10 Acre)	12822.62	8828.40	641.13	441.42
3	Small (2.5 -5 Acre)	8534.60	4767.00	1024.15	572.04
4	Marginal (< 2.5 Acre)	6603.94	3876.00	528.32	310.08
5	Total ----->>>			2204.04	1333.81

As is clear from above table the gross surplus from farming per year in the village of Jambahal is estimated at Rs. 22 lakhs and the net surplus is to the tune of Rs. 13.3 lakhs. In addition to this the farming of the village creates substantial farm labour employment, which is described in the succeeding section.

12.0 Employment:

Table 23 below gives us an estimate of the employment potential of agriculture in the village.

Table-23: Estimates of Total Employment in Agriculture in Jambahal Village

Sl.	Particulars	Total	Big	Medium	Small	Marginal
I. Employment Created in Agriculture(No. of days in a Year)						
1	Farmers' Own Labour	34457	4	8209	17472	8772
2	Hired Labour	24847	838	17603	6355	51
3	Total Direct Labour	59304	842	25812	23827	8823
4	Supervision of Farmer	17791	253	7744	7148	2647
	Incl. Indirect Labour *					
5	Total Man days Created	77095	1095	33555	30975	11470
II. Earnings on Account of Agriculture Labour Employment (Rs.'000)						
1	Farmers' Own Labour	861.42	0.11	205.22	436.80	219.30
2	Hired Labour	621.17	20.95	440.07	158.88	1.28
3	Total Direct Labour	1482.60	21.05	645.29	595.68	220.57
4	Supervision of Farmer (Incl. Indirect Labour *)					
5	Total Man days Created	1482.60	21.05	645.29	595.68	220.57

* Supervision of the Farmer as a %to the total labour days is 30%

Based on the cropping pattern of the village in 2003-04, crop production alone(from seed sowing to threshing) generates employment equivalent to 77,095 man-days every year out of which 59,300 man-days are direct employment at a wage rate of Rs.25 per day. The estimate of employment is arrived at by multiplying the per acre labour engagement for a different crops with the area under these crops and then aggregating the same. Further, indirect employment in the form of supervision, preparatory work, etc. creates a substantial employment and according to the villagers it is to the extent of at least 30% of the total direct labour involvement, which has not been valuated in the present calculations.

Table-24 below indicates the implications of employment creation in Agriculture in the village.

Table-24: No. of People Guaranteed Employment Through Agriculture in Jambahal Village

Sl.	No. of Persons	No. of Days /Year	Sl.	No. of Persons	No. of Days /Year
1	100	771	2	200	385
3	300	257	4	400	193
5	500	154	6	600	128
7	700	110	8	800	96
9	900	86	10	1000	77

As is seen from the table above the total employment creation of 77,095 man-days per year in crop production is equivalent to giving full employment to 100 persons for 771 days in an year or is equivalent to giving full employment to 400 persons for nearly 193 days in an year.

Table-25 below indicates the employment from other sources in the village.

Table-25 Employment from Different Sources in Jambahal Village

Sl.	Particulars	Unit	Estimate
1	Total Population	Nos.	1350
2	Total No. of families	Nos	280
3	Total Workforce *	Nos	841
4	Total Man days **	Nos	252180
5	Employment in Agriculture	Man days	77095
6	Share of Agriculture	as a % of 4	30.6%
7	Emplmnt By Migration ***	Man days	60000
8	Share of Migration	as a % of 4	23.8%
9	Other Sources	as a % of 4	5%
10	Disguised Unemployment	as a % of 4	41%
11	Total		100%

* Avg. No. of Workers/Family 3, ****** No. of days per Worker/ Year 300, *** No. of Families Migrate 100, No. of Persons Per family 4, For No. of Days in a Year 150.

As can be seen from the above table agriculture provides employment to the extent of 30.6 % as against the share of migratory employment to the extent of 23.8% per annum. Nearly 41% is considered as disguised unemployment, which means although people appear to be

engaged in agriculture and related operations in reality they are unemployed as the total employment created in agriculture is to the extent of 30% of the active work force.

13.0 Migration:

More than 100 families migrate to Hyderabad after completion of the agricultural operations. The entire family stays at Hyderabad for 6-8 months. Some 20-30 families(Landless and Marginal farmers) stay for far longer period. In Hyderabad they work for brick kilns for a wage rate of rs.70 per 1000 bricks. They work in groups of 4(family members) and produce around 10,000 bricks a week. Thus their total earning is around Rs.700 per week of which they get around Rs.300 per week as food advance and the rest is accumulated. This accumulated wage is received at the end of their stay at Hyderabad just before their departure for their native village.

This phenomenon has been occurring for over 20 years, year after year. Thus the villagers of Jambahal have been for the last 20 years working hard to develop Hyderabad and not their village or their lands. If Agriculture had developed that itself would have provided enough employment in the village itself . In that case the villagers would not have been forced into migration. Thus it is a case of total negligence of agriculture in such villages/districts. Agriculture is dying, people are migrating as a result the farmers are unable to take care of their lands, which further results in deterioration of agriculture. This is a vicious cycle, which should be broken as soon as possible. Or else in another 5 years time the entire village may be abandoned.

14.0 Critical Analysis of the Situation:

The current situation in Jambahal requires a critical analysis as farmers are increasingly feeling the burden of unsustainable farming practices and are apprehensive about the future food security of the village.

14.1 Sustainability of Agriculture:

Massive deforestation in the area and change in climatic conditions(*needs to be further researched*) has led to massive soil erosion, low water retention capacity and loss of topsoil. Coupled with the continuous use of chemical fertilisers and pesticides has led to soil

infertility. The villagers feel that without higher doses of fertilisers productivity cannot be sustained. Microbial activity in the soil has drastically reduced.

Although the village still has a substantial cattle population, but lack of sufficient feed and fodder may soon force farmers to get rid of the cattle. FYM application is still satisfactory in the village.

Farmers of the village have begun depending upon seeds from the Government and Market. With the apprehension that Government shall cease to deal in seeds the farmers shall be forced to depend upon the market only. In this way control over agriculture is steadily shifting from the hands of the farmers to the market.

All this put together indicates to high level of unsustainability of agriculture in Jambahal. But the Government does not seem to be bothered. There is no indication of any step that the Government is taking, either in the field of soil and water, technology, cost of cultivation or market for the produce. This is the reason the farmers of the village are thinking to abandon agriculture and migrate permanently to Hyderabad.

14.2 Food Security & Nutrition:

The crop production of the village is sufficient to meet the cereal requirement for about 8 months in a year. There is need to enhance crop productivity substantially for meeting food and nutrition needs of the village. Efforts in the direction of afforestation, soil and water conservation, maintaining a healthy cattle population, use of Neem seeds, leaves, etc. for pest control and improving the production practices would enhance crop production. Other avenues of food production such as fruits, nuts, animal products, etc. are to be explored for this purpose. Massive wage employment on land and water development on FFW basis would not only meet the food requirement on an immediate basis but would create the required infrastructure for increased food production in the village itself.

14.3 Social Equity:

There are 29 families who are landless. Most of these families migrate for 8-10 months in a year. Their return is to make sure that their houses are repaired and made habitable. They remain with hope that someday their fate will change and they would not be required to migrate. The Government policies have not been able to create any hope for these deprived

sections of the society. In fact there seems to be a negative impact of agricultural policies on the poorer sections in these areas. Education of children of the migrating families is badly affected. During the time of migration they do not get any benefit at Hyderabad nor at their village. In fact they miss such benefits such as BPL cards. In the recent census for BPL cards many migrants have not been included. In fact the social status of the poor have further deteriorated over the years.

15.0 Potential & Prospects:

15.1 Sustainable Agriculture:

The village is suitable for 100% organic farming in paddy and other crops. This is a great prospect for the village as the village has all the basis for organic farming as has been listed below:

i. The village is full of Neem trees. If the Neem seeds are collected(presently villagers do not collect as it does not fetch a good price- Price ranges around Rs.1/Kg.) and converted into oil and oilcake, the oilcakes can be used as manure and the oil as a pesticide. The villagers can sell some surplus oil and oilcake.

ii. The village has adequate cattle population (Oxen 80 pairs, Buffaloes 18 pairs, 250 cows, several hundred chicken, several hundred goats, etc.). If adequate care is taken and this animal population is developed into a healthy bunch not only it would add extra income (by milk, eggs, sale of bullocks, etc.) but would be able to meet the entire drought power required for agriculture and FYM. If Gobar gas plants can be installed not only quality of FYM shall increase but also the villagers would not have to cut forests.

iii. If the 86 acre forest land can be developed with proper plantation (as the villagers have shown interest) in a few years time the village would not only get a good green cover but also a lot of fruits, fodder and other items of use.

iv. If the water bodies and the waste lands are developed to tap the rain water it would be sufficient to retain enough moisture for crops round the year.

v. The village already has a few traditional paddy seeds. Many more could be collected from adjoining villages. The same can be done in the case of other crops. As regards cotton appropriate technology has to be explored in other states and even cotton can be grown organically using traditional seeds.

If organic farming is adopted by using scientific methods it has the potential to develop agriculture into a sustainable livelihood for villagers as the cost of cultivation would come down drastically, farm income would go up and with increased crop coverage in Rabi season agriculture in the village would generate substantial employment for all the villagers.

Organic farming is a holistic concept. It involves croplands, it involves the cattle and the animals, it is related to the flora and fauna of the area, locally produced implements play an important role. The different benefits of organic farming would be:

a. Sustainable growth in crop production that can reach to levels far in excess of the so called HYVs,
b. Nutritive and healthy foods free from pesticides,
c. Pure water and air without any contamination with chemical fertilisers or chemical pesticides, thereby reducing many health problems that is associated with fertilisers and pesticides,
d. Stable cost of cultivation at a lower level and not dependent upon the market for agricultural inputs. Everything shall be available in the village itself or at most in the nearby village,
e. Steady rise farm income per acre for all types of farmers,
f. A number of other crops can be grown round the year and animal husbandry can be taken up in a substantial way.
g. All this would enhance employment in the village itself.

15.2 Self-Reliant Farmers' Co-operatives:

In order to organise organic production and provide a stable market for the farmers' produce, a farmers' co-operative can play a very important role. With enactment of the Orissa Self help Co-operative Act, 2001 as an Act parallel to the existing Orissa Co-operative Societies Act, 1962, the state Government has given some chance for the farmers and the poor people to organise themselves to take control over their own livelihoods. Many co-operatives have been already formed in the Orissa and they are able to give genuine co-operative services to their members and the Government has absolutely no power to interfere in its affairs. The villagers can form their own self-reliant co-operative with some assistance and take control over their own agriculture and their lives.

There could be many other prospects. But the two described above could be the starting points. The Government should come forward.

16.0 Conclusion:

The village of Jambahal is a classic case of neglecting the real issues and beating round the bush. No amount of initiative other than strengthening agriculture would give sustainability to the lives and livelihoods of the villagers. There is a need to believe the capacities of the people and provide assistance as is wanted by the villagers. If the Government does not understand these findings it would only be termed as working for the rich and not for the poor. The policies of the Government can be and should be directed towards bringing back traditional practices in agriculture and managing soil and water judiciously and applying science and technological innovations. People would show the way.

Case Study-2: Upparbahal Village of Louisingha Block, Bolangir District, Orissa.

Introduction

The village of Upparbahal represents a situation where the farmers have gone along with the Goevrnment's policies/programmes in agriculture for the last 15 years. In this report we present the situation prevailing currently in the village. And unless otherwise stated the facts and analysis refers to an average of last two years (2002-03 and 2003-04). During the last 15 years crop production has actually increased. The village has been for quite some time producing enough food to meet its requirement. In addition some cash income has also become a reality mainly due to groundnut, vegetables and cotton. However, by adopting the policies and programmes promoted by the Goevrnment the farmers have lost control over seeds, the soil fertility has deteriorated, cost of cultivation has been on the rise and coupled with un remunerative agricultural prices farmers' incomes are falling over the years. The villagers are currently very apprehensive about the future of agriculture and their livelihoods. The progressive amongst the farmers are beginning to understand the need for sustainable agricultural practices and they express the desire for change in government policies accordingly.

Village Profile in Brief:

Upparbahal is a village located some 30 kilometeres from the District headquarter, i.e. Balangir and some 10 kms from the block headquarter which is at Louisingha. The profile of the village is presented through the table-1 below:

Table1: Profile of Upparbahal Village

Sl.	**Particulars**	**Unit**	**Estimate**
1.0	**Total Population**	Nos.	2000
2.0	**No. of Families**		
2.1	SC Families	Nos.	40
2.2	ST Families	Nos.	43
2.3	OBC Families	Nos.	160
2.4	General Families	Nos.	7

2.5	**Total Families ->>>>**		250
3.0	Families Owning Land		
3.1	Big (>= 10 Acre)	Nos.	5
3.2	Medium (5-10 Acre)	Nos.	40
3.3	Small (2.5 -5 Acre)	Nos.	100
3.4	Marginal(< 2.5 Acre)	Nos.	87
3.5	**Tot. Landed Owning Families >**	Nos.	232
4.0	**Landless families**	Nos.	18
5.0	Cultivable Area	Acre	1115
6.0	Forest Area *	Acre	100

* The area is used as a stone quarry with very little tree cover

As can be seen from the table above the village consists of some 250 families out of which 18 families are landless. The total cultivable area according to the villagers(this includes common property lands of the village) is to the tune of 1115 Acres.

1.0 Agriculture Extension:

The farmers of the village have been continuously exposed to different Government programmes/schemes. The HYV paddy entered the village some 15 years back through the agricultural extension route. Now the farmers are very much aware about the package of practices recommended by the Government. This is indicative of an effective extension activity. According to the villagers they have been adopting the agricultural practices recommended by the Government agricultural extension personnel from time to time. Of course farmers are seen to be making modifications at their level.

As the village enjoys the reputation of advanced farmers the District Agriculture officials were quick to name Upparbahal as the village that has adopted the Goevrnment programmes and recommendations. The village is often visited by the Village Agricultural Worker(VAW) and in regular intervals by the officials from the District Agriculture Administration.

This is the result of regular visits of JAOs/DAOs/DDAs over the last 15 years. Besides the Village Agriculture Workers (VAW) of the area have been focusing their efforts on the village. The villagers have also been sent on a number of exposure visits both inside and outside the state. The major methodology adopted by the extension personnel have been to organise demonstration plots in the village. Scheme after scheme all schemes haven implemented in the village over the last 15 years. The special Rice Development Programme, the Intensive Cotton Development Programme, Farm Mechanisation programme and many more have been implemented in the village. Under all these schemes significant portion of the cost of different inputs supplied to farmers were with a heavy subsidy component. The recent example of cotton demonstrations(1 acre each for 5 farmers with all inputs free) proves the point. The farmers have been exposed to a number of training programmes on cotton production both within and outside the state.

To cap it all this village was selected by the Goevrnment when they carried out the field trials of the controversial Genetically Modified Cotton seeds (Bt Cotton) which the seed Giant Multi-National company named Monsanto is trying hard to push in India in spite of protests by the farmers across the country. The Bt Cotton trials were held in Upparbahal village during 2002-03. This proves the point that whatever the Agriculture Input Business Houses com

2.0 Land Holding and Cropping Pattern:

The landholding pattern of the village is presented in Table1A below:

Table1A: Landholding Profile in the Upparbahal Village

Sl.	Season	Land Holding of an Average Farmer Belonging to Diff. Classes (In Acre)				
		Big Farmer	**Medium**	**Small**	**Marginal**	**Average**
1.0	Kharif Cropped Area	25.00	8.00	4.00	2.00	7.43
2.0	Rabi/Summer Cropped Area	8.00	3.90	1.40	0.80	2.90
3.0	Gross Cropped Area	33.00	11.90	5.40	2.80	10.32
4.0	No. of Farmers in the Class	5	40	100	87	232
5.0	Total Area under the Class	165.00	476.00	540.00	243.60	1424.60

The village is constituted by five Big farmer families having a cultivable area of 25 Acres each, forty medium farmer families having an average cultivable area of 8 Acres each, one hundred small farmer families having an average cultivable area of 4 Acres each, eighty marginal farmer families having an average cultivable area of 2 Acres each.

The cropping pattern of the village is presented in Table-2 below:

Table-2: Cropping Pattern of Upparbahal Village

Sl.	Crop	Area under Different Crops(in Acre)			
		Kharif		Rabi/Summer	
		2003-04	15 Yrs Back	2003-04	15 Yrs Back
1	Paddy(HYV)	650	5	0	0
2	Paddy(Traditional)	50	500	0	0
3	Buta *	0	0	200	100
4	Cotton	30	10	0	0
5	Tomato	145	20	30	0
6	Mung**	20	0	20	100
7	Other vegetables ***	30	20	120	0
8	Groundnut	60	0	15	0
9	Other Crops ****	30	145	15	50
10	**Total Cultivated Area**	**1015**	**700**	**400**	**250**
11	Fallow Land	100	0	0	0
12	Total Cultivable Area	1115	700	400	250

* Pegeon Pea- as a payra crop along with paddy, ** The area keeps changing as per the availability of residual moisture, *** Other vegetables= Brinjal, Water melon, etc. in Kharif and Pumkin, Brinjal, Onion in Rabi, **** Other Crops= Maize, Black Gram, Suhemp, Arhar, Channa, Sesame, Chilli, etc.

Now crops grown in Rabi are sunflower. Some 15 years back Sugar Cane Used to be grown Since the last 5-6 years Tomato cultivation has started in a large scale during kharif season. The main driving force being initial good prices(Rs.5-6/Kg.) during the period from September to November. Area under Kharif Tomato has reached nearly 150 Acres. However, since the area under the crop has increased substantially in many the nearby villages the local

markets are unable to absorb the surpluses as a result of which prices are low(in the range of Rs.2-3/Kg.).

Cotton has been introduced into the cropping pattern in a big way as a result of Goevrnment's promotional programmes for cotton. The village boasts of advanced cotton farmers. In fact one of the farmer from the village is a member of the State Cotton Advisory committee.

As can be seen from Table-2 above the total cultivated area during the Kharif season increased from around 700 Acre 15 years back to 1015 Acre in 2003-04. This is an increase of 45%, which is significant considering that it has happened in just 15 years. This indicates that a lot of other categories of land such as forestland, pastures, etc. were converted into farm lands. The major changes of area has taken place in case of paddy and it is from 500 Acres to 700 Acres, which is 200 Acres, an increase of around 40%. Such a change came because of higher productivity of HYV paddy(in comparison to traditional paddy) during the time of introduction and the consequent food security that came along for the villagers. Another 100 Acres of land was added to the cultivated area and together with additional paddy coverage of 200 Acres the total additional cultivated land in the village is 300 Acres. Thus one can say that the last 15 years was a period of agricultural growth in the village. But things have been changing over the last 4-5 years(*a detailed study of which reveal much more*) and in the year 2003-04 nearly 100 Acres of cultivable land has been kept fallow, which is a very ominous sign. It does indicate difficult times ahead of agriculture in the village.

3.0 Irrigation and Drought Management:

The village has around 150 dugwells, which provides protective irrigation in Kharif upto 350 Acres. These dug-wells have been set-up through the farmers' own initiative or through the million-well scheme of the Government. The village also has three Katas(Traditional water harvesting structures) which irrigates upto 30 Acres during Kharif. Recently these katas have been repaired and developed with funds from different Goevrnment programmes. The total irrigation potential of different sources in the village is given at Table-3 below:

Table-3: An Account of Irrigation Coverage in Upparbahal Village

Sl.	Source of Irrigation	Nos.	Irrigation Potential in Acre		
			Kharif	Rabi	Total
1	Dug Well	150	350	150	500
2	Katta	2	30	15	45
3	Others		10	5	15
4	**Total Irrigation Potential--->>>**		**390**	**170**	**560**
5	Total Cropped Area In Acre		1035	400	**1415**
6	% of Irrigated Area		38%	43%	40%

The table above reveals that in Kharif 38% of the area is irrigated while during Rabi season 43 % of the cropped area is irrigated. During years of bad rainfall the Dug wells and Katta dry up and are not in a position to provide proper irrigation. Thus the danger of drought always looms large on the village, but the intensity of damage is lesser in comparison with other villages and this is due to the dug wells and Katas and better soil and crop management practices adopted by the villagers.

Substantial portion of the nearby forest area of nearly 100 Acres has been converted into a stone quarry and the stone quarrying operations go on full swing. Many villagers get wage employment in this quarry for over 4 months a year. It is only recently that the villagers have joined hands with two adjacent villages to protect a portion of the forest by forming a forest protection committee. De-forestation coupled with massive soil erosion has led a chronic drought like condition and it is becoming increasingly difficult to face drought situations. The farmer is left to face the wrath of the weather and is seen to be grappling with it year after year but the Goevrnment does not seem to be bothered. Villagers have begun realizing that the local forest officials and contractors lured them into cutting forest trees. They are beginning to organise themselves for protection of forests, which they realise would ultimately come to their rescue in case of drought situation.

In addition the farmers are beginning to realise the importance of traditional seed and traditional agricultural practices for drought management.

4.0 Seed:

Use of HYV Seeds: Fifteen years back the villagers begun using the so-called HYV seeds in case of Paddy, which are being supplied by the Government seed corporation. Currently around 10 different high yielding varieties (HYV) paddy varieties are under cultivation, the most popular being Swarna. This variety was brought by farmers from Andhra Pradesh who had settled around Sambalpur(Atabira, etc.). Currently nearly 90% of the area under paddy is accounted for by these HYV seed varieties, the rest being under traditional varieties. This phenomenon of using seeds from government sources or from the open market has spread to other crops as well. The following table gives an estimate of the extent of dependence on government and market in different crops:

Table-4: Different Sources of Seeds Used by the farmers of Upparbahal Village

Sl.	Crop	Share of Different Sources of seed in % to Total			
		Market	Govt.	Own	Total
1	Paddy(HYV)	0%	50%	50%	100%
2	Paddy(Traditional)	0%	0%	100%	100%
3	Buta	0%	0%	100%	100%
4	Cotton	100%	0%	0%	100%
5	Tomato	20%	20%	60%	100%
6	Mung *	0%	0%	100%	100%
7	Other vegetables	70%	0%	30%	100%
8	Groundnut	0%	10%	90%	100%
9	Other Crops	20%	10%	70%	100%

* Mung seeds are purchased from Govt. sources in case of crop failures, etc.

There are several aspects as regards the issue of seed. The following are the important ones:

1. Higher Seed Rate: As against the normal use of 30 Kg. of seed Per Acre in case of paddy the farmers are seen to be using 40 kg./acre. This they do as they are always apprehensive about low germination due to delay in rain. If the seed is of good quality and proper agricultural practices are followed the seed rate can be reduced upto 15 Kg./Acre thereby saving a lot of grains and reducing of cost of cultivation to some extent.

2. Delay in Supply: Both the Goevrnment and market operators do not make seeds available in time. In case of paddy the Goevrnment's supply of seeds generally starts from June 7th as against farmers' requirement from Mid-May. In case of cotton the market operators are unable to supply adequate quantities of seed in time and farmers have to give nearly 50% of the cost as advance before 2-3 months.
3. Input Intensive Seeds: The HYVs and the improved seeds supplied by the Goevrnment require heavy doses of chemical fertilizers and over time the fertiliser requirement has increased substantially.
4. Productivity Comparision: A comparision between the yield of HYVs and traditional paddy seeds is given in the Table-5 below:
5. The HYVs yield around 12-15 Qtl./Acre while the traditional varieities yield around 8-10 Qtl./Acre. This difference is mainly explained by the application of high doses of fertilizers which is currently at a level of 150 Kg./Acre at a cost of around Rs.1000/Acre. Also the use of high doses of pesticides to the tune of 0.8 Litres per Acre at an expenditure of Rs. 500/Acre is worth noting as regards this perceived high yields. The traditional seeds yield without fertilizers and pesticides. The only thing it requires is FYM, which if not used in case of HYVs the yield at the current level can not be sustained. The farmers are forced to use pesticides in case of traditional seeds, which was not the case 15 years back, because of pest incidence due to HYV paddy cultivation in most lands.
6. The farmers also realise that the quality of traditional seeds has deteriorated and if the same can be improved yield of traditional varieties can be further enhanced.
7. The costs of seeds are on the rise. A packet of cotton seeds of 'Banita' and 'Tulsi' trade name weighing 400 grams costs Rs. 550.00 in the market. The Goevrnment supplies Sabita brand cotton seeds at Rs.350.00 per packet of 400 grams. The farmers are apprehensive that this price may go up to Rs.1000.00 per packet in the coming year and the Goevrnment may withdraw subsidies.
8. Falling Quality of Seeds: During the last 15 years on three occasions the germination of paddy seeds supplied by the Government fell below 40%. On one occasion when the Goevrnment supplied hybrid paddy seeds after procuring the same from a private company out of the 60 farmers who had cultivated the crop 55 farmers experienced 100% failure of germination. The hybrid cotton seeds supplied are all truthfully labeled (TL) seeds without any certification and germination guarantee. Thus there is a growing concern regarding seed quality both at the level of the Government and the open market.

9. Dependence on the Market: With growing use of HYVs, Improved seeds and Hybrids the farmers now realize that they have become dependent upon the Government and the market. The farmers also realize that like in all other fronts the Government will stop supplying seeds and they would have to entirely depend upon the market.
10. Entry of GM Seeds: The controversial Genetically Modified(GM) seeds have entered the village because of their close association with the department of agriculture. Two varieties of Bt Cotton MCH-184, MCH-162 were used for the trials in 2002-03. Shri Rudra Sahu an advanced farmer from the village undertook these field trials and got an yield of 4 Qtl./Acre as against an yield of 6 Qtls./Acre in case of normal hybrids. According to the concerned officials supervising the trial has failed. But the Mahyco Company, which is a joint venture with the Multi-National Seed Giant Monsanto, recently demanded for commericial release of the varieities, which has been so far denied by the State Goevrnment.

5.0 Use of Fertiliser & Pesticides:

Along with the so-called HYVs and Improved seed varieties chemical fertilizers and pesticides have become an integral part of the farming practices for all crops. The extent of consumption of fertilizers and pesticides is on the rise for all crops and the farmers are already complaining of falling soil fertility because of this. An estimate of use of fertilizers and pesticides along with other inputs in paddy, cotton and tomato has been shown in Table-5 below:

Table-5: Estimates of Use of Inputs for Paddy, Cotton and Tomato in Upparbahal Village

Sl.	Use of Inputs	Unit	Paddy		Cotton	Tomato	Total
			HYV	Traditional			
1	Area Under the Crop	Acres	650.0	50.0	30.0	175.0	**905.0**
2	Seed *	Kg./Acre	40.0	40.0	0.4	0.3	
	Total Village Consumption	Kg.	26000.0	2000.0	12.0	43.8	**28055.8**
3	Fertilisers	Kg./Acre	150.0	0.0	325.0	200.0	
	Total Village Consumption	Kg.	97500.0	0.0	9750.0	35000.0	**142250.0**
4	Pesticides	Litres/Acre	0.8	0.8	1.9	1.0	

	Total Village Consumption	Litres	520.0	40.0	57.0	175.0	**792.0**
5	Farm Yard Manure	CartLoad/ Acre	4.0	6.0	4.0	4.0	
	Total Village Consumption	Cart Loads	2600.0	300.0	120.0	700.0	**3720.0**
6	Irrigation (by Lift)	Hrs /Acre	12.0	4.0	0.0	20.0	
	Total Village Consumption	Hrs	7800.0	200.0	0.0	3500.0	**11500.0**
7	Labour	Lab.Days/ Ac.	70.0	34.0	78.0	97.0	
	Total in the Village	Lab.Days	45500.0	1700.0	2340.0	16975.0	**66515.0**
8	Drought Power	Bullockday /Ac.	6.0	6.0	3.0	6.0	
	Total Village Use	Bullockdays	3900.0	300.0	90.0	1050.0	**5340.0**

* Purchase of seeds from the open market or Government sources is given at Table-3

As pointed out above a stage has come when the HYVs, the improved seeds, and the hybrid seeds (Cotton and vegetables) are not able to maintain the last year's yield unless higher dose of fertilizers – higher than the previous year (sometimes 5-10 kg. per Acre every year)- are applied to the soil. In this manner consumption of fertilizers has increased substantially. The consumption of pesticides in acse of cotton is to the tune of 1.9 litres per Acre and in some year it touches 4 litres per Acre. Such use of fertilisers and pesticides is much above the state averages and is defineitely one amongst the highest uses.

6. 0 Use of Energy & Farm Implements:

The use of electrically driven, diesel driven machines for agriculture purposes have come to the village with the advent of HYV seeds and the related promotional programme of the Goevrnment. The Table-6 below gives a summarized picture of the status of use of energy and farm implements in the village:

Table-6: Use of Energy and Implements in Upparbahal Village

Sl.	Particulars	% of Total Use	Consumption of Energy
1	Ploughing by Tractors	20%	Diesel
2	Ploughing by Bullock	80%	Bullock
3	Threshing by Elect.Thresher	20%	Electricity
4	Threshing by PaddleThresher	40%	Human
5	Threshing by Tractor	20%	Diesel
6	Threshing by Bullock	20%	Bullock
7	Ploughing by MV Plough	10%	
8	Ploughing by Wood Plough	90%	

The information available suggests the village has begun adopting mechanization of farming. Replacing Bullocks to the extent of 20% in ploughing operations is a significant change. Carrying out 80% of the threshing operations by mechanized implements (Power threshers, pedal threshers and Tractors) is again a very significant change. Substituting the wooden plough with the MV plough made of steel is an indicator to the trend of depending upon the market for farm implements. Use of hand sprayers for pesticide application is further indication of adoption of new gadgets/implements for agriculture.

7. 0 Cost of Cultivation:

7.1 Market Rates of Agricultural Inputs:

Table-8 below is a compilation of the rates at which different agricultural inputs including farm labour is available in the village. It is instructive to note that the wage rate for farm labour is Rs.40 per day as against the minimum wages of Rs.50 per day fixed by the Government. But this level of wage is much better if compared to other areas of the district of Bolangir(In Jambahal village of Patnagarh block) the wage rate is Rs.25 per day. This is because of a relatively better agricultural situation in Upparbahal. The HYV paddy seed rate of Rs.6.75 per Kg. is after subsidy declared by the State Govt. for drought stricken areas. According to the villagers without subsidy the rate may touch Rs.12.00 per Kg. next year. Since nearly 90% of the farmers approach the local moneylenders for their credit needs and he charges an interest of 5% per month we have considered that to be the prevailing rate of interest for the village.

Table- 7: Unit Rates of Inputs Used for Agriculture in Upparbahal Village

Sl.	Input Used	Rate(in Rs.)/Unit	Remarks
1.0	**Labour**	40.00/day	Local
2.0	**Seed**		
2.1	Paddy (HYV)	6.75/Kg	Purchased, Own
2.2	Paddy (Traditional)	5.00/Kg	Own
2.3	Buta	15.00/Kg	Own
2.4	Cotton	1.38/Gm.	Purchased
2.5	Tomato (Improved)	2.50/Gm.	Purchased, Own
2.6	Mung	18.00/Kg.	Own
2.7	Other vegetables	5.00/Gm.	Purchased (Hybrids), Own
2.8	Groundnut	18.00/Kg.	Own
2.9	Other Crops	10.00/Kg.	Purchased, Own
3.0	Plough	100.00/day	With labour& Bullocks
4.0	**Fertilisers**		
4.1	Urea	5.00/Kg.	Purchased
4.2	Gromor	9.00/Kg.	Purchased
4.3	MOP	4.60/Kg.	Purchased
4.4	Super(SSP)	3.20/Kg.	Purchased
4.5	DAP	8.00/Kg.	Purchased
4.6	FYM	100.00/Cartload	Own, Purcahsed
5.0	**Pesticides**		
5.1	Meta Sistox	0.30/Ml.	Purchased
5.2	Hildan	0.30/Ml.	Purchased
5.3	Demicron	0.40/Ml.	Purchased
5.4	Bavistin	1.00/Gm.	Purchased
5.5	Endosulfan	0.60/Ml.	Purchased
5.6	Plantomycin	0.35/Gm.	Purchased
6.0	Irrigation (LIP)	40.00/Hr.	Private
7.0	Interest on Investment	60% p.a.	Money lender
8.0	Land Revenue	5.00/Acre/Year	Govt.

7.2 Cost of Cultivation of Paddy:

In the following Tables we have compiled all the data that was available as regards cost of cultivation of both so-called high yielding varieties (HYV) and traditional varieties. The tables below indicate an estimate of the unit cost (Per Acre) incurred by an average farmer based on the data collected from several farmers of the village. Our observation was that irrespective of the size of holdings the cost of cultivation was similar. Thus these estimates truly represent the expenditure incurred in different crops.

Table-8 below gives the estimate of cost of cultivation of HYV paddy in the village during Kharif season.

Table-8: Cost of Cultivation of HYV Paddy in Upparbahal Village (Kharif)

Sl.	Input/Activity	Qty./Acre		Rate	Cost
		Unit	Qty.Used	Rs./Unit	Rs./Acre
1	Seed	Kg.	40.0	6.75	270.00
2	Land Preparation	Plough Day	6.0	100.00	600.00
3	Transplantation				
	- Seed Bed	Plough Day	0.5	100.00	50.00
	- Seed Bed	Labour Day	1.0	40.00	40.00
	- Seed Bed(Inputs)				50.00
	- Transplantation	Labour Day	30.0	40.00	1200.00
	Sub-Total ---->>>>>				1340.00
4	Fertiliser Application				
	- Gromor	Kg.	50	9.00	450.00
	- MOP	Kg.	25	4.60	115.00
	- Urea	Kg.	75	5.00	375.00
	- Farm Yard Manure(FYM)	Cart Load	4	100.00	400.00
	Sub-Total ---->>>>>				1340.00
5	Pesticide Application	Ml/Litre	4		500.00
	- Novacron, Hildan	Ltr of Water	200		
6	Irrigation(Lift Point)	Hrs	12	40.00	480.00
7	Inter-culture Operation	Labour Day	15	40.00	600.00
8	**Total Investment**	**Sum of 1 to 7**			**4530.00**
9	Interest on Investment	% of 8		60%	1132.50

		Number of Months		5	
10	Harvesting				
	- Reaping and Threshing	Labour Day	18	40.00	720.00
11	Land revenue	Rs./Acre		5.00	5.00
12	**Total Cost of Cultivation**				**6387.50**

Table- 8A below indicates the expenditure on farm labour for cultivating an acre of HYV paddy:

Table 8A: Labour Component in Cost of Cultivation of HYV Paddy in Upparbahal Village

Sl.	Particulars	Labour Days	Wage Rate	Cost (Rs.)	% Own **	Own Lab. ***
1	Labour for Land Prep. *	6	40.00	240.00	55%	132.78
2	Labour for Seed Bed	1	40.00	40.00	48%	19.17
3	Labour for Transplanting	30	40.00	1200.00	38%	452.78
4	Labour for Interculture Opn.	15	40.00	600.00	47%	281.94
5	Labour for Harvesting	18	40.00	720.00	41%	298.33
	and Threshing					
6	**Total ---->>>>**	**70**		**2800.0**	**42%**	**1185.0**
7	**Labour cost as a % to Cost of Cultivation**			**44%**		

* Each Plough Day includes a labour day, ** Labour contribution of the farmer 's family as a % to Total Labour Requirement, *** Value of Own labour

Table-8B below indicates the own labour involvement in HYV paddy farmer class-wise:

Table-8B: Share of Own labour in Total labour Component in HYV Paddy in Upparbahal Village

Sl.	Particulars	Share of Own Labour as a % to Total				
		Big	Medium	Small	Marginal	Total
1	Area Under Crop(Acre)	97.5	240.0	180.0	130.5	648.0

2	Labour for Land Prep. *	0%	20%	100%	100%	55%
3	Labour for Seed Bed	0%	0%	100%	100%	48%
4	Labour for Transplanting	0%	10%	50%	100%	38%
5	Labour for Inteculture Opn.	0%	20%	70%	100%	47%
6	Labour for Harvesting	0%	20%	50%	100%	41%
	and Threshing					
7	**Total ---->>>>**	0%	15%	59%	100%	42%
8	**Share of Own Labour**	0%	15%	59%	100%	42%
	In Total Labour Cost					

Table - 8C below indicates the fertiliser and pesticide component in the cost of cultivation.

Table 8C: Fertiliser & Pesticides Component in Cost of Cultivation of HYV Paddy

Sl.	**Particulars**	**Quantity Used**		**Price**		**Cost Est.**
		Unit	**Estimate**	**Unit**	**Rate**	**Rs./Acre**
1	Fertiliser Use	Kg./Acre	150.00	Rs./Kg.	6.27	940.00
2	Pesticide Use	Litre/Acre	0.80	Rs./Litre	625.00	500.00
3	**Total Cost of fertilisers & Pesticides**					**1440.00**
4	Fertliser Cost as a % to Total Cost of Cultivation					**15%**
5	Pesticide Cost as a % to Total Cost of Cultivation					**8%**
6	Fertliser & Pesticide Cost as a % to Total Cost of Cultivation					**23%**

Table-9 below indicates the cost of cultivation incurred for traditional paddy.

Table-9: Cost of Cultivation of Traditional Paddy in Upparbahal Village

Sl.	**Input/Activity**	**Qty./Acre**		**Rate**	**Cost**
		Unit	**Qty.Used**	**Rs./Unit**	**Rs./Acre**
1	Seed	Kg.	40.0	5.00	200.00
2	Land Preparation	Plough Day	6.0	100.00	600.00
	and Broadcasting				
3	Fertiliser Application				
	- Chemical fertilisers	Kg.	0		0.00
	- Farm Yard Manure(FYM)	Cart Load	6	100.00	600.00

4	Pesticide Application	Ml/Litre	4		125.00
	- Nuracron, Hildan	Ltr of Water	200		
5	Irrigation(Lift Point)	Hrs	4	40.00	160.00
7	Inter-culture Operation	Labour Day	10.0	40.00	400.00
8	**Total Investment**	**Sum of 1 to 7**			**2085.00**
9	Interest on Investment	% of 7		60%	625.50
		Number of Months		6	
10	Harvesting				
	- Reaping and Threshing	Labour Day	18	40.00	720.00
11	Land revenue	Rs./Acre		5.00	5.00
12	**Total Cost of Cultivation**				**3435.50**

Table - 10 below indicates the labour component in the cost of cultivation of traditional paddy:

Table 10: Labour Component in Cost of Cultivation of Traditional Paddy in Upparbahal Village

Sl.	**Particulars**	**Labour Days**	**Wage Rate**	**Cost (Rs.)**	**% Own ****	**Own Lab. *****
1	Labour for Land Prep. *	6	40.00	240.00	95%	227.98
2	Labour for Inteculture Opn.	10	40.00	400.00	77%	307.82
3	Labour for Harvesting	18	40.00	720.00	65%	467.49
	and Threshing					
4	**Total ---->>>>**	**34**		**1360.0**	**74%**	**1003.3**
5	**Labour cost as a % to Cost of Cultivation**			**40%**		

* Each Plough Day includes a labour day, ** The labour contribution of the farmer 's family as a % to Total labour requirement, *** Value of Own labour

Table – 10A below indicates the share of own labour involvement in cultivating traditional paddy farmer class-wise:

Table 10A: Share of Own labour in Total labour Component in Traditional Paddy in Upparbahal Village

Sl.	Particulars	Share of Own Labour as a % to Total				
		Big	Medium	Small	Marginal	Total
1	Area Under Crop(Acre)	2.5	0.0	30.0	17.4	49.9
2	Labour for Land Prep. *	0%	50%	100%	100%	95%
3	Labour for Inteculture Opn.	0%	30%	70%	100%	77%
4	Labour for Harvesting	0%	40%	50%	100%	65%
	and Threshing					
5	**Total ---->>>>**	0%	39%	65%	100%	74%
6	**Share of Own Labvour**	0%	39%	65%	100%	74%
	in Total labour Cost					

7.3 Cost of cultivation of Cotton:

Commercial scale Cotton cultivation is fairly to the village, introduced some 4-5 years back. Table - 11 below indicates the cost of cultivation incurred for Cotton. Farmers are apprehensive that due to increase in rate of seed and need for application of extra doses of fertilisers and pesticides in the near future the cost of cultivation shall increase substantially.

Table-11: Cost of Cultivation of Cotton in Upparbahal Village

Sl.	Input/Activity	Qty./Acre		Rate	Cost
		Unit	Qty.Used	Rs . / Unit	Rs./Acre
1	Seed	Gm.	400.0	1.38	550.00
2	Land Preparation	Plough Day	3.0	100.00	300.00
3	Planting	Labour Day	10.0	40.00	400.00
4	Fertiliser Application				
	- MOP	Kg.	100	4.60	460.00
	- Super	Kg.	150	3.20	480.00
	- Urea	Kg.	75	5.00	375.00

	- Farm Yard Manure(FYM)	Cart Load	4	100.00	400.00
	Sub-Total ---->>>>>				1715.00
5	Pesticide Application				
	- Meta Siston	Ml.	400	0.30	120.00
	- Hildan	Ml.	500	0.30	150.00
	- Demicron	Ml.	500	0.40	200.00
	- Others	Ml.	500		200.00
	- Application Cost	Labour Day	5	40.00	200.00
	Sub-Total ---->>>>>				870.00
6	Inter-culture Operation	Labour Day	10	40.00	400.00
7	Hoeing	Labour Day	10	40.00	400.00
8	**Total Investment**	**Sum of 1 to 7**			**4635.00**
9	Interest on Investment	% of 8		60%	1390.50
		No. of Months		6	
10	Harvesting				
	- Reaping and Threshing	Labour Day	40	40.00	1600.00
11	Land revenue	Rs.		5.00	5.00
12	**Total Cost of Cultivation**				**7630.50**

Table - 11A below indicates the labour component in the cost of cultivation of Cotton:

Table 11A: Labour Component in Cost of Cultivation of Cotton in Upparbahal Village

Sl.	**Particulars**	**Labour Days**	**Wage Rate**	**Cost (Rs.)**	**% Own ****	**Own Lab. *****
1	Labour for Land Prep. *	3.0	40.00	120.00	85%	101.94
2	Labour for Planting	10.0	40.00	400.00	66%	265.74
3	Labour for Pesticide Spray	5.0	40.00	200.00	48%	95.83
4	Labour for Inter-culture	10.0	40.00	400.00	47%	187.96
5	Labour for Hoeing	10.0	40.00	400.00	47%	187.96
6	Labour for Harvesting	40	40.00	1600.00	63%	1003.70
	And Threshing					

7	**Total ---->>>>**	**78.0**		**3120.0**	**59%**	**1843.1**
8	**Labour cost as a % to Cost of Cultivation**			**41%**		

* Each Plough Day includes a labour day, ** The labour contribution of the farmer 's family as a % to Total labour requirement, *** Value of Own labour.

Table - 11B below indicates the share of own labour involvement in cultivating Cotton farmer class-wise:

Table 11B: Share of Own labour in Total labour Component in Cotton in Upparbahal Village

Sl.	**Particulars**	Share of Own Labour as a % to Total				
		Big	Medium	Small	Marginal	Total
1	Area Under Crop(Acre)	0.0	20.0	10.0	0.0	30.0
2	Labour for Land Prep. *	0%	100%	100%	100%	85%
3	Labour for Planting	0%	50%	100%	100%	66%
4	Labour for Pesticide Spray	0%	0%	100%	100%	48%
5	Labour for Inteculture Opn.	0%	20%	70%	100%	47%
6	Labour for Hoeing	0%	20%	70%	100%	47%
7	Labour for Harvesting & Threshing	0%	40%	100%	100%	63%
8	**Total ---->>>>**	0%	36%	92%	100%	59%
9	**Share of Own Labour**	0%	36%	92%	100%	59%
	In Total Labour Cost					

Table - 11C below indicates the fertiliser and pesticide component in the cost of cultivation of Cotton:

Table 11C: Fertiliser & Pesticides Component in Cost of Cultivation of Cotton

Sl.	**Particulars**	Quantity Used		Price		Cost Est.
		Unit	Estimate	Unit	Rate	Rs./Acre
1	Fertiliser Use	Kg./Acre	325.00	Rs./Kg.	4.05	1315.00
2	Pesticide Use	Litre/Acre	1.90	Rs./Litre	352.63	670.00
3	**Total Cost of fertilisers & Pesticides**					**1985.00**

4	Fertliser Cost as a % to Total Cost of Cultivation		**17%**
5	Pesticide Cost as a % to Total Cost of Cultivation		**9%**
6	Fertliser & Pesticide Cost as a % to Total Cost of Cultivation		**26%**

In fact some farmers opined that during 2002-03 they have actually incurred double the above mentioned cost of pesticides.

7.4 Cost of Cultivation of Tomato:

Tomato has emerged as an important crop in the recent years. Table 12 below indicates the cost of cultivation incurred for Tomato:

Table-12: Cost of Cultivation of Tomato in Upparbahal Village

Sl.	Input/Activity	Qty./Acre		Rate	Cost
		Unit	Qty.Used	Rs./Unit	Rs./Acre
1	Seed	Gm.	250.0	2.50	625.00
2	Seed Bed Preparation	Labour Day	2.0	40.00	80.00
		Other Inputs			50.00
2	Land Preparation	Plough Day	6.0	100.00	600.00
3	Planting	Labour Day	15.0	40.00	600.00
4	Fertiliser Application				
	- MOP	Kg.	50	4.60	230.00
	- DAP	Kg.	100	8.00	800.00
	- Urea	Kg.	50	5.00	250.00
	- Farm Yard Manure (FYM)	Cart Load	4	100.00	400.00
	Sub-Total ---->>>>>				1680.00
5	Pesticide Application				
	- Bavistin	Gm.	300	1.00	300.00
	- Endosulfan	Ml.	500	0.60	300.00
	- Plantomycin	Gm.	200	0.35	70.00
	- Application Cost	Labour Day	6	40.00	240.00
	Sub-Total ---->>>>>				910.00
6	Inter-culture Operation	Labour Day	40	40.00	1600.00
7	Irrigation(Lift Point)	Hrs	20	40.00	800.00
8	**Total Investment**	**Sum of 1 to**			**6815.00**

		7			
9	Interest on Investment	% of 8		60%	2044.50
		Number of Months		6	
10	Harvesting	Labour Day	30	40.00	1200.00
11	Land revenue	Rs.		5.00	5.00
12	**Total Cost of Cultivation**				**10064.50**

Table 12A below indicates the labour involvement in cultivating Tomato:

Table 12A: Labour Component in Cost of Cultivation of Tomato

Sl.	**Particulars**	**Labour Days**	**Wage Rate**	**Cost (Rs.)**	**% Own ****	**Own Lab. *****
1	Labour for Seed Bed Prep *	**2**	40.00	80.00	90%	71.72
2	Labour for Land Prep. *	6	40.00	240.00	90%	215.17
3	Labour for Planting	15	40.00	600.00	52%	314.48
4	Labour for Pesticide Spray	6	40.00	240.00	83%	198.62
5	Labour for Inter-culture	40	40.00	1600.00	41%	662.07
6	Labour for Harvesting	30	40.00	1200.00	91%	1096.55
7	**Total ---->>>>**	**97.0**		**3880.0**	**66%**	**2558.6**
8	**Labour cost as a % to Cost of Cultivation**			**39%**		

* Each Plough Day includes a labour day, ** The labour contribution of the farmer 's family as a % to Total labour requirement, *** Value of Own labour

Table - 12B below indicates the share of own labour involvement in cultivating Tomato farmer class-wise:

Table 12B: Share of Own labour in Total labour Component in Tomato (Kharif) in Upparbahal Village

Sl.	**Particulars**	**Share of Own Labour as a % to Total**				
		Big	**Medium**	**Small**	**Marginal**	**Total**
1	Area Under Crop(Acre)	5.0	20.0	120.0	0.0	145.0
2	Labour for Seed	0%	50%	100%	100%	90%

	Bed Prep.					
3	Labour for Land Prep.	0%	50%	100%	100%	90%
4	Labour for Planting	0%	80%	50%	100%	52%
5	Labour for Pesticide Spray	0%	0%	100%	100%	83%
6	Labour for Inteculture Opn.	0%	0%	50%	50%	41%
7	Labour for Harvesting	50%	50%	100%	100%	91%
8	**Total ---->>>>**	15%	32%	74%	81%	66%
9	**Share of Own Labour in Total Labour Cost**	15%	32%	74%	81%	66%

Table 12C below indicates the fertiliser and pesticide component in the cost of cultivation of Tomato:

Table 12C: Fertiliser & Pesticides Component in Cost of Cultivation of Tomato in Upparbahal Village

Sl.	**Particulars**	**Quantity Used**		**Price**		**Cost Est.**
		Unit	**Estimate**	**Unit**	**Rate**	**Rs./Acre**
1	Fertiliser Use	Kg./Acre	200.00	Rs./Kg.	6.40	1280.00
2	Pesticide Use	Litre/Acre	1.00	Rs./Litre	670.00	670.00
3	**Total Cost of fertilisers & Pesticides**					**1950.00**
4	Fertliser Cost as a % to Total Cost of Cultivation					**13%**
5	Pesticide Cost as a % to Total Cost of Cultivation					**7%**
6	Fertliser & Pesticide Cost as a % to Total Cost of Cultivation					**19%**

7.5 Impact of Policies On Cost of Cultivation:

The cost of cultivation of all crops has risen with the implementation of Government policies in agriculture. Altgough we have not done a time-series analysis, but by comparing the cost of cultivation of traditional paddy with that of HYV paddy the increase is clear as can be seen from Table-12D below:

Table-12D: Cost of Cultivation of Traditional Paddy Vs. HYV Paddy in Upparbahal Village

Sl.	Cost Heads	Paddy		Cost Difference	
		Traditional	HYV		
		Rs./Acre		Rs./Acre	in %
1	Seed	200.00	270.00	70.00	35%
2	Labour	1360.0	2800.0	1440.00	106%
3	Chemical Fertiliser	0.00	940.00	940.00	
4	Farm Yard Manure(FYM)	600.00	400.00	-200.00	-33%
5	Chemical Pesticide	125.00	500.00	375.00	300%
6	Irrigation	160.00	480.00	320.00	200%
7	Others(Harvesting, etc.)	990.50	997.50	7.00	1%
8	**Total Cost of Cultivation**	3435.50	6387.50	2952.00	86%

The cost of cultivating paddy using the HYV seeds supplied by the Goevrnment in the village is Rs. 6387 per Acre as against the cost of cultivating paddy using traditional seeds (retained by the farmer over generations together) which is Rs. 3435 per Acre. Thus cost of cultivating HYV paddy is a whopping 86 % more than what is incurred for traditional paddy. If compared to the traditional paddy crop some 15 years back this comparison in cost of cultivation will be further more. The major additional costs are on account of increase in labour involvement and the use of chemical fertilisers.

The HYV paddy involves transplantation (which is labour intensive and requires nearly 30 labour days per Acre) as against broadcasting of seeds in the case of traditional seeds. While this is a positive contribution of HYV seed based agriculture for the agriculture labourers it has put heavy burden on the farmer as the paddy prices have not kept pace with the increase in cost of cultivation. The use of chemical fertilizers have come with the introduction of HYV seeds by the Goevrnment and has added to the cost of cultivation to the extent of Rs. 940 per

Acre. Pesticides to the tune of Rs.500 per Acre is being spent by the farmer for HYV paddy which is entirely a new cost for the farmer as a direct consequence of the Goevrnment policies of promoting HYV seeds and use of chemical fertilizers. This has also forced the farmer to use some pesticides in case of traditional paddy (Rs.125/Acre) because pests and diseases have spread all across because of HYV seeds. Table-12E below brings out the comparison between cost of cultivation of Traditional paddy on the one hand and that for the rest of major crops(HYV paddy, Cotton and Tomato):

Table-12E: Analysis of Cost of Cultivation in Agriculture in Upparbahal Village

Sl.	**Particulars**	**Unit**	**Paddy**		**Cotton**	**Tomato**	Av. Of	Av. Of
			Traditional	**HYV**			4,5,6,6	5,6,7
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
A. Average Cost of Cultivation of Diff. Crops								
1	Seed	Rs./Acre	200.00	270.00	550.00	625.00	411.25	481.67
2	Labour	Rs./Acre	1360.00	2800.00	3120.00	3880.00	2790.00	3266.67
3	Fertiliser	Rs./Acre	0.00	940.00	1315.00	1280.00	883.75	1178.33
4	Pesticides	Rs./Acre	125.00	500.00	670.00	670.00	491.25	613.33
5	Irrigation	Rs./Acre	160.00	480.00	0.00	800.00	360.00	426.67
6	Interest	Rs./Acre	625.50	1132.50	1390.50	2044.50	1298.25	1522.50
7	Others	Rs./Acre	965.00	265.00	585.00	765.00	645.00	538.33
8	Total	Rs./Acre	3435.50	6387.50	7630.50	10064.50	6879.50	8027.50
B. Share of Diff. Components in Total Cost of Cultivation of Diff. Crops								
1	Seed	in %	5.8%	4.2%	7.2%	6.2%	6.0%	6.0%
2	Labour	in %	39.6%	43.8%	40.9%	38.6%	40.6%	40.7%
3	Fertiliser	in %	0.0%	14.7%	17.2%	12.7%	12.8%	14.7%
4	Pesticides	in %	3.6%	7.8%	8.8%	6.7%	7.1%	7.6%
5	Irrigation	in %	4.7%	7.5%	0.0%	7.9%	5.2%	5.3%
6	Interest	in %	18.2%	17.7%	18.2%	20.3%	18.9%	19.0%
7	Others	in %	28.1%	4.1%	7.7%	7.6%	9.4%	6.7%
8	Total	in %	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Where as there is no expenditure on fertilisers in the case of traditional paddy, in the rest of the three important crops fertiliser expenditure accounts on an average 15% of the cost of cultivation. Expenditure on pesticides which is about 3.6% for traditional paddy (actually it should be zero if HYV paddy were not grown side by side traditional paddy) is more than around 7% for the rest of the important crops. Farmers are very apprehensive of its rise in the years to come.

The cost of cultivation is on the rise for all other crops. In case of vegetables the average cost of cultivation per acre for almost all vegetables is in the range of Rs.8000-10,000 per acre. The cultivation costs are rising because of use of HYV and Hybrid seeds, heavy use of fertilsers and pesticides and water. The unit cost of all these inputs are rising and rising very fast. Farmers are very much worried about the fast increase of cost of seeds. The cotton seeds which were being sold at Rs. 200-300 per packet of 400 grams a few years back is today Rs.550 per packet and the seed dealers have told the farmers to get ready to pay Rs.1000 per packet soon. Vegetable seed prices are steadily rising every year. Farmers are apprehensive of increase of fertiliser prices with the imminent withdrawal of subsidies by the Goevrnment.

8. 0 Agricultural Credit:

The farmers of the village used to avail crop loans from the Badimunda Primary Agriculture Credit Co-operative (which is affiliated to the Bolangir District Central Co-operative Bank) and the nearby branch of the Bolangir Gramya Bank. However, nearly 80% of the farmers have become defaulters in both these institutions since the last 10 years, a fact known very well by all Goevrnment functionaries. So far no step has been taken to address this situation and make available crop loans through institutional arrangements. More than 90% of the farmers are, therefore, forced to avail credit from local money lenders(and at times from input dealers- a phenomenon which has recently started in the area) at an exorbitant interest rate of around 60% per annum. Table 13 below sums up the farmers problems related to agricultural credit:

Table-13: Analysis of Credit Involvement in Agriculture in Upparbahal Village

Sl.	Particulars	Unit	Paddy		Cotton	Tomato	Total
			HYV	Traditional			
I. Prevailing Situation							
1	Credit Requirement *	Rs./Acre	4530.00	2085.00	4635.00	6815.00	4840.25
2	Area Under the Crop(s)	Acre	650.00	50.00	30.00	175.00	905.00
3	**Total Credit requirement**	Rs. Lakhs	29.45	1.04	1.39	11.93	**43.80**
4	Interest Incurred *	Rs./Acre	1132.50	625.50	1390.50	2044.50	
5	Cost of Cultivation	Rs./Acre	6387.50	3435.50	7630.50	10064.50	
6	Total Cost Incurred	Rs. Lakhs	41.52	1.72	2.29	17.61	63.14
7	Credit as % to Cost of Cult.	%	70.9%	60.7%	60.7%	67.7%	69.4%
8	Interet as % to Cost of Cult.	%	17.7%	18.2%	18.2%	20.3%	18.5%
9	**Total Interest Paid/Annum**	Rs. Lakhs	7.36	0.31	0.42	3.58	**11.67**
Sl.	**Particulars**	**Unit**	**Paddy**		**Cotton**	**Tomato**	**Total**
			HYV	**Traditional**			
II.If Bank Loans Available							
10	Interest to be Incurred **	Rs./Acre	169.88	93.83	208.58	306.68	
11	Interest Saving per Acre	Rs./Acre	962.63	531.68	1181.93	1737.83	
12	Total Interest to be Paid/Yr.	Rs. Lakhs	1.10	0.05	0.06	0.54	1.75
13	Total Savings on account of Interest Payment	Rs. Lakhs	6.26	0.27	0.35	3.04	**9.92**

* As Estimated in Tables 9,10,11 and 12(Credit reuirement has been assumed as Investment before harvesting), ** Assuming at Current level of Interest Rate declared by the Government: **9%**

No. of Months of Investment -->>> 5 6 6 6

If bank loans are available at 9% as has been declared by the Central Government the farmers would be able to save on account of interest payment to the extent of Rs.962/-, 531/-, 1182/- and 1737/- per acre in the cultivation of HYV paddy, Traditional paddy, Cotton and Tomato respectively. And in total the farmers of the village would save a whopping Rs.10 Lakhs per annum, an amount that gets into the pocket of the moneylender due to the faulty policies of the Goevrnment. This is a mind boggling figure considering that the total gross agricultural

income of the whole village with 250 families is Rs. 34.4 lakh at an average of about Rs.13,000 per family and the net income being Rs. 16.6 lakh at an average of Rs.6640 per family. In such a situation question arises regarding the justification on the part of the Government to promote cotton farming, which is a capital intensive crop. It is clear the farmers of the village are being burdened.

9.0 Crop Productivity:

The Table-14 below indicates an account of productivity of different crops in 2003-04 in comparison to what was the productivity some 15 years back:

Table-14: Productivity of Different Crops in Upparbahal Village

Sl.	Crop	Productivity(in Qtl./Acre)					
		Kharif		%	Rabi/Summer		%
		2003-04	15 Yrs Back	Change	2003-04	15 Yrs Back	Change
1	Paddy(HYV)	15.0	20.0	-25%	0.0	0.0	
2	Paddy (Traditional)	10.0	12.0	-17%	0.0	0.0	
3	Buta	0.0	0.0		2.5	3.0	-17%
Sl.	**Crop**	**Productivity(in Qtl./Acre)**					
		Kharif		%	**Rabi/Summer**		%
		2003-04	**15 Yrs Back**	Change	**2003-04**	**15 Yrs Back**	Change
4	Cotton	6.0	2.0	200%	0.0	0.0	
5	Tomato	50.0	15.0	233%	60.0	20.0	200%
6	Mung	2.0	0.0		2.0	3.0	-33%
7	Other Vegetables	20.0	10.0	100%	25.0	15.0	67%
8	Groundnut	5.0	8.0	-38%	6.0	10.0	-40%
9	Other Crops	3.0	5.0	-40%	7.0	10.0	-30%

Farmers were of the view that the productivity of HYV paddy has was around 20 Qtl/Acre when it was introduced some 15 years back, it hovered around 18 Qtl/Acre for some time and of late there has been a fall and currently it is around 15 Qtl./Acre. According to the farmers deterioation of soil fertility is the main reason. Continuous use of chemical fertilizers and pesticides and massive soil erosion are considered as the main causes behind falling soil fertility. Quality of seeds is also suspected. Farmers are unable to buy HYV seeds after every

3 years(as prescribed by the Govt.) and even the quality standard of seeds supplied by the Goevrnment has been falling. Even the yield of traditional paddy has marginally fallen from around 12 Qtl./Acre to about 10 Qtl./Acre as a consequence of fall in soil fertility due to massive soil erosion and unable to manatain the quality of traditional seeds.

In the case of cotton, the productivity has increased from some 2 Qtl./Acre(when some farmers were cultivating cotton on a little larger scale) to the current level of 6 Qtl./Acre. This has been possible by the use of hybrid seeds and heavy doses of chemical fertilizers & pesticides. The village of Upparbahal has an extra reason for higher productivity and that is use of FYM and the availability of protective irrigation in the form of dug wells, etc.

In case of Rabi crops the productivity of Mung and groundnut has fallen. While some of it is because of low levels of soil moisture but it is also indicative of falling soil fertility.

10 Marketing & Prices:

The village has substantial marketable surplus in paddy, cotton, Tomato, G'nut and other vegetables. The prices received by the farmers at the peak period of marketing over the years are placed at Table 18 below|:

Table-15: Prices of Important Agricultural Commodities During Peak Marketing Period

In Upparbahal Village

Sl.	Crop	Price Received by the Framers(Rs./Qtl.) in Diff. Years				
		1999-00	2000-01	2001-02	2002-03	2003-04
I. Kharif Season:						
1	Paddy(HYV)	350	350	350	400	424
2	Paddy(Traditional)	350	350	350	420	450
3	Cotton(Hybrid)	1200	1200	1600	1800	2200
4	Tomato(Improved)	400	300	300	250	300
5	Mung(Traditional)	900	800	900	950	1000
6	Brinjal	200	250	250	300	300
7	Groundnut(Own Seed)	1300	1350	1400	1400	1500
8	Sesame	1550	1500	1500	1400	1500

II. Rabi/Summer Season:						
9	Buta	900	900	950	1000	1100
10	Tomato(Improved)	100	75	75	100	100
11	Mung(Traditional)	900	900	950	1000	1000
12	Pumpkin	175	200	200	250	250
13	Groundnut(Own Seed)	1100	1100	1100	1200	1200
14	Sunflower	800	800	850	850	900

As can be seen from the above table price of Paddy has marginally increased over the recent years. However, the ruling prices has been consistently lower than the minimum support price(MSP) for paddy at least to the extent of Rs. 100 per quintal. As against the MSP of Rs.550.00 per quintal declared by the Government of India for the year 2003-04 the actual price that the farmers of the village have received is in the range of Rs. 427.00 per quintal. It is a different matter the farmers do not consider the MSP as a remunerative price. According to the villagers are forced to sell at below the MSP because of a nexus between the millers(who buy paddy and supply rice under the MSP operation in Orissa), the Food Corporation of India(FCI), the State Government officials and the politicians. According to the farmers of the village, last year the millers agents purchased paddy in the local so-called regulated market committee's(RMC) yard only for 10-12 days thereafter which they avoided purchases on some pretext or the other. Instead they lifted paddy directly from the villages. Both in the case of market yard and the village level procurement, farmers have to suffer from huge deductions by the millers agents as is indicated at the Table-16 below:

Table- 16: Average Price Deductions of a Farmer for Paddy Sold at RMC Yard

Sl.	**Particulars**	**Unit**	**Average**	**Deduction**	**Deduction**
				Rs./Qtl.	**Rs./Bag ***
1	**Minimum Support Price**	**Rs./Qtl.**	**550.00**		412.5
2	Moisture Deduction	%	7.5%	41.25	30.94
3	Chaff	%	8.0%	44.00	33.00
4	Inert Matter	%	2.5%	13.75	10.31
5	Other Deductions & Misc.	Rs./Bag *****	18	24.00	18.00
6	Total Deduction	Rs./Qtl.		123.00	92.25
7	**Effective Price**	**Rs./Qtl.**	**427.00**		
		Rs./Bag *****			320.25

***** One Standard Gunny Bag = 75 Kg.

Further the farmers do not get the entire payment as cash and substantial portion of the payment is delayed for 2-3 months. All this has been happening year after year and the farmers express their helplessness. The State Goevrnment functionaries and the RMC functionaries have been perpetuating such a situation. The village level price is still lower.

Such a situation is strange from the point of view of the fact that the villagers are so closely associated with the Department of Agriculture. While the villagers have come to the help of the local officials of the Department of Agriculture as regards meeting their targets of adoption of new technologies and these officials have been taking credit in pushing new crops and technologies they are not seen anywhere when even the Goevrnment declared MSP is not available to the villagers.

In case of cotton the price has improved substantially as the Goevrnment officials are very active in supervising the RMCs and the purchases are made there. It is a contrasting situation in comparison to what is seen in the case of paddy marketing and prices. Our understanding is that this the Goevrnment and trade are doing so as to promote Cotton in a big way in Bolangir district and other western Orissa districts. In order to achieve higher acreage under cotton for the next 2-3 years they would continue to ensure a reasonable price and once the crop is established the Goevrnment would forget the price ensuring mechanisms.

11 Income from Farming:

11.1 Farm Income of a Big Farmer:

The Table-17 below captures the farm income of an average big farmer of the village.

Table-17: Estimates of Earning of Big Farmers of Upparbahal Village

Sl.	Crop	Crop Area (Acre)	Farming exp. (Rs.)	Earning from farming (Rs./Acre)			Total Earning(Rs.)	
				Own Labor*	Net Earning	Incl. Own Lab (6+5)	Incl. Labour (7x3)	Net (6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	I. Kharif Season:							
1	Paddy (HYV)	19.50	124556.25	0.00	12.50	12.50	243.75	243.75
2	Paddy (Traditional)	0.50	1717.75	0.00	864.50	864.50	432.25	432.25

2	Buta	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.00	0.00	0.00	5569.50	5569.50	0.00	0.00
4	Tomato (Improved)	1.00	10064.50	600.00	4935.50	5535.50	5535.50	4935.50
5	Mung (Traditional)	0.50	750.00	60.00	500.00	560.00	280.00	250.00
6	Other Vegetables	0.50	3000.00	240.00	4000.00	4240.00	2120.00	2000.00
7	Groundnut (Own Seed)	2.00	8000.00	0.00	3500.00	3500.00	7000.00	7000.00
8	Other Crops	1.00	3000.00	120.00	-900.00	-780.00	-780.00	-900.00
9	Sub-Total ----->>>>	25.00	151088.50				14831.50	13961.50
	II. Rabi/Summer Season:							
1	Paddy(HYV)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Paddy(Traditional)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Buta	4.00	4000.00	40.00	1750.00	1790.00	7160.00	7000.00
3	Cotton(Hybrid)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Tomato(Improved)	0.50	5532.25	600.00	-5064.50	-4464.50	-2232.25	-2532.25
5	Mung(Traditional)	0.00	0.00	80.00	0.00	80.00	0.00	0.00
6	Other Vegetables	3.00	33000.00	440.00	1500.00	1940.00	5820.00	4500.00
7	Groundnut(Own Seed)	0.00	0.00	0.00	2200.00	2200.00	0.00	0.00
8	Other Crops	0.50	1750.00	140.00	0.00	140.00	70.00	0.00
9	Sub-Total ----->>>>	8.00	44282.25				10817.75	8967.75
	III. TOTAL	**33.00**	**195370.75**				**25649.25**	**22929.25**
	IV.Return on Investment(Earnings/Investment) as a %						**13.13%**	**11.74%**

***** Share of Own Labour as a % to Total Labour Cost for Paddy(HYV and Traditional), Cotton, Tomato
is as per above mentioned tables. For other Crops %, Buta 10%, Mung(Traditional) 10%, Other Vegetables 10%, Groundnut(Own Seed) 0%, Other Crops 10%.

As can be seen from the above table the net income from farming of big farmer with a gross cropped area of 33 Acres is a meager Rs.22929 per annum which works out less than Rs695/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 25649 per annum. In the major crop of paddy his return from farming negligible as the gross income nearly equals the expenditure in paddy.

11.2 Farm Income of Medium Farmers:

The Table-18 below captures the farm income of an average medium farmer of the village.

Table-18: Estimates of Income of Medium Farmers of Upparbahal Village

Sl.	Crop	Crop Area	Expenditure	Earning from farming (Rs./Acre)			Total Earning(Rs.)	
		(Acre)	in Farming	Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy (HYV)	6.00	38325.00	432	12.50	444.50	2667.00	75.00
2	Paddy (Traditional)	0.00	0.00	528	864.50	1392.50	0.00	0.00
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.50	3815.25	1120	5569.50	6689.50	3344.75	2784.75
4	Tomato (Improved)	0.50	5032.25	1240	4935.50	6175.50	3087.75	2467.75
5	Mung (Traditional)	0.20	300.00	120	500.00	620.00	124.00	100.00
6	Other Vegetables	0.20	1200.00	480	4000.00	4480.00	896.00	800.00
7	Groundnut (Own Seed)	0.40	1600.00	320	3500.00	3820.00	1528.00	1400.00
8	Other Crops	0.20	600.00	240	-900.00	-660.00	-132.00	-180.00
9	Sub-Total -----<<<<	8.00	50872.50				11515.50	7447.50
II. Rabi/Summer Season:								
1	Paddy (HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Paddy (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	2.00	2000.00	80	1750.00	1830.00	3660.00	3500.00
3	Cotton (Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato (Improved)	0.30	3319.35	1240	-5064.50	-3824.50	-1147.35	-1519.35
5	Mung	0.10	200.00	160	0.00	160.00	16.00	0.00

	(Traditional)							
6	Other Vegetables	1.20	13200.00	880	1500.00	2380.00	2856.00	1800.00
7	Groundnut (Own Seed)	0.00	0.00	400	2200.00	2600.00	0.00	0.00
8	Other Crops	0.30	1050.00	280	0.00	280.00	84.00	0.00
9	Sub-Total	3.90	19769.35				5468.65	3780.65
III. TOTAL		**11.90**	**70641.85**				**16984.15**	**11228.15**
IV. Return on Investment(Earnings/Investment) as a %							**8.69%**	**5.75%**

* Share of Own Labour as a % to Total Labour Cost for Paddy(HYV and Traditional), Cotton, Tomato

ia as per previous tables.

For other Crops

Buta	20%
Mung(Traditional)	20%
Other Vegetables	20%
Groundnut(Own Seed)	20%
Other Crops	20%

As can be seen from the above table the net income from farming of a medium farmer of the village Upparbahal with a gross cropped area of 12 Acres is a just around Rs.11228/- per annum which works out to be around Rs943/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 16984 per annum. In the major crop of paddy his net return from farming negligible but because of his own labour input he gets around Rs. 447/- per acre.

11.3 Farm Income of Small Farmers:

The Table-19 below captures the farm income of an average small farmer of the village.

Table-19: Estimates of Income of Small farmers of Upparbahal Village

Sl.	Crop	Crop Area	Expenditure	Earning from farming (Rs./Acre)			Total Earning(Rs.)	
		(Acre)	in Farming	Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy (HYV)	1.80	11497.50	1660	12.50	1672.50	3010.50	22.50
2	Paddy (Traditional)	0.30	1030.65	880	864.50	1744.50	523.35	259.35
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.10	763.05	2880	5569.50	8449.50	844.95	556.95
4	Tomato (Improved)	1.20	12077.40	2860	4935.50	7795.50	9354.60	5922.60
5	Mung (Traditional)	0.10	150.00	600	500.00	1100.00	110.00	50.00
6	Other Vegetables	0.10	600.00	1680	4000.00	5680.00	568.00	400.00
7	Groundnut (Own Seed)	0.20	800.00	1280	3500.00	4780.00	956.00	700.00
8	Other Crops	0.20	600.00	840	-900.00	-60.00	-12.00	-180.00
9	Sub-Total	4.00	27518.60				15355.40	7731.40
II. Rabi/Summer Season:								
1	Paddy (HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Paddy (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	0.80	800.00	400	1750.00	2150.00	1720.00	1400.00
3	Cotton (Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato (Improved)	0.00	0.00	2860	-5064.50	-2204.50	0.00	0.00
5	Mung (Traditional)	0.10	200.00	800	0.00	800.00	80.00	0.00
6	Other Vegetables	0.40	4400.00	3080	1500.00	4580.00	1832.00	600.00
7	Groundnut(Own	0.10	500.00	1600	2200.00	3800.00	380.00	220.00

	Seed)							
8	Other Crops	0.00	0.00	980	0.00	980.00	0.00	0.00
9	Sub-Total ----->>>>	1.40	5900.00				4012.00	2220.00
III. TOTAL		**5.40**	**33418.60**				**19367.40**	**9951.40**
IV. Return on Investment(Earnings/Investment) as a %							**9.91%**	**5.09%**

***** Share of Own Labour as a % to Total Labour Cost for Paddy(HYV and Traditional), Cotton, Tomato

Is as per previous tables.

For other Crops

Buta	100%
Mung(Traditional)	100%
Other Vegetables	70%
Groundnut(Own Seed)	80%
Other Crops	70%

As can be seen from the above table the net surplus from farming of a small farmer of the village Upparbahal with a gross cropped area of 5.4 Acres is around Rs.9951/- per annum which works out to be around Rs1842/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to just Rs. 19367 per annum. In the major crop of paddy his net return from farming is negligible but because of his own labour input he gets around Rs. 1672/- per acre.

11.4 Farm Income of Marginal farmers:

The Table-20 below captures the farm income of an average marginal farmer of the village.

Table-20: Estimate of Earnings of Marginal farmers of Upparbahal Village

Sl.	Crop	Crop Area	Expenditure	Earning from farming (Rs./Acre)			Total Earning(Rs.)	
		(Acre)	in Farming	Own Labor	Net	Incl. Own Lab	Incl. Labour	Net
			In Rs.	*	Earning	(6)+(5)	(7)x(3)	(6)x(3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Kharif Season:								
1	Paddy (HYV)	1.50	9581.25	2800	12.50	2812.50	4218.75	18.75
2	Paddy (Traditional)	0.20	687.10	1360	864.50	2224.50	444.90	172.90
2	Buta	0.00	0.00	0	0.00	0.00	0.00	0.00
3	Cotton (Hybrid)	0.00	0.00	3120	5569.50	8689.50	0.00	0.00
4	Tomato (Improved)	0.00	0.00	3160	4935.50	8095.50	0.00	0.00
5	Mung (Traditional)	0.00	0.00	600	500.00	1100.00	0.00	0.00
6	Other Vegetables	0.10	600.00	2400	4000.00	6400.00	640.00	400.00
7	Groundnut (Own Seed)	0.20	800.00	1280	3500.00	4780.00	956.00	700.00
8	Other Crops	0.00	0.00	1200	-900.00	300.00	0.00	0.00
9	Sub-Total	2.00	11668.35				6259.65	1291.65
II. Rabi/Summer Season:								
1	Paddy (HYV)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Paddy (Traditional)	0.00	0.00	0	0.00	0.00	0.00	0.00
2	Buta	0.20	200.00	400	1750.00	2150.00	430.00	350.00
3	Cotton (Hybrid)	0.00	0.00	0	0.00	0.00	0.00	0.00
4	Tomato (Improved)	0.20	2212.90	3160	-5064.50	-1904.50	-380.90	-1012.90
5	Mung (Traditional)	0.10	200.00	800	0.00	800.00	80.00	0.00

6	Other Vegetables	0.20	2200.00	4400	1500.00	5900.00	1180.00	300.00
7	Groundnut (Own Seed)	0.10	500.00	1600	2200.00	3800.00	380.00	220.00
8	Other Crops	0.00	0.00	1400	0.00	1400.00	0.00	0.00
9	Sub-Total	0.80	5312.90				1689.10	-142.90
III. TOTAL		**2.80**	**16981.25**				**7948.75**	**1148.75**
IV. Return on Investment(Earnings/Investment) as a %							**4.07%**	**0.59%**

***** Share of Own Labour as a % to Total Labour Cost for Paddy(HYV and Traditional), Cotton, Tomato

Is as per previous tables.

For other Crops

Buta	100%
Mung(Traditional)	100%
Other Vegetables	100%
Groundnut(Own Seed)	80%
Other Crops	100%

As can be seen from the above table the net income from farming of a medium farmer of the village Upparbahal with a gross cropped area of 2.8 Acres is around Rs.1148/- per annum which works out to be around Rs410/- per acre. Inclusive of the own labour he puts the gross surplus from farming works out to Rs. 7948/- per annum.

11.5 Comparison Between Different Class of Farmers:

Table 21 below gives a comparative picture of farm surpluses of different class of farmers:

Table 21: Comparative Farm Surpluses in Upparbahal Village

Sl.	Profile of an Average farmer in the Class	Big	Medium	Small	Marginal
1	Net Cropped Area(Acre)	25.00	8	4	2
2	Gross Cropped Area(Acre)	33.00	11.9	5.4	2.8
3	Total Net Surplus(Rs./Annum)	22929	11228	9951	1148
4	Total Gross Surplus(Rs./Annum)	25649	16984	19367	7948
5	Net Surplus per Acre(Rs.)	695	943	1842	410
6	Gross Surplus per Acre(Rs.)	777	1427	3586	2838

Table 21 reveals a very important aspect of Indian farming. Small and marginal farmers are seen to be more efficient farmers, as the net surplus per acre in case of small and marginal farmers is substantially higher than that of Big and medium farmers. This is due to better crop combination and efficient farm management. We could not capture this part because of lack of time.

The Table-22 below indicates the farm surpluses of a few classes of farmers together.

Table 22: Income Pattern of a few classes together in Upparbahal Village

Sl.	Particulars	Farmer	Cummulative as % to Total	
			Total	Net
1	Income of Top	2.2%	4%	7%
2	Income of Top	19.4%	24%	34%
3	Income of Top	62.5%	80%	94%
4	Income of Bottom	37.5%	20%	6%
5	Income of Bottom	80.6%	76%	66%
6	Income of Bottom	97.8%	97%	72%

The table above reveals that farm surplus of top 24% of farmers is about 34% of the total farm surplus of the village and that of top 80% is 94%. Although this indicates some disparity of income but it is not very acute.

11.6 Total Farm Surplus of the Village:

The Table 23 below gives us an estimate of the total farm surplus of the village.

Table 23 : Agricultural Income of the Upparbahal Village

Sl.	Farm Class	Income/Farmer		Tot.Income of Class	
		In Rs.		in Rs.' 000	
		Total	Net	Total	Net
1	Big (>= 10 Acre)	25649.25	22929.25	128.25	114.65
2	Medium (5-10 Acre)	16984.15	11228.15	679.37	449.13
3	Small (2.5 -5 Acre)	19367.40	9951.40	1936.74	995.14
4	Marginal (< 2.5 Acre)	7948.75	1148.75	691.54	99.94
5	Total ----->>>			3435.89	1658.85

As is clear from above table the gross surplus from farming per year in the village of Upparbahal is estimated at Rs. 34.4 lakhs and the net surplus is to the tune of Rs. 16.6 lakhs. In addition to this the farming of the village creates substantial farm labour employment, which is described in the succeeding section.

12.0 Employment:

Table 24 below gives us an estimate of the employment potential of agriculture in the village of Upparbahal.

Table-24: Estimates of Total Employment in Agriculture in Upparbahal Village

Sl.	Particulars	Total	Big	Medium	Small	Marginal
I. Employment Created in Agriculture(No. of days in a Year)						
1	Farmers' Own Labour	44094	337	5732	23397	14628
2	Hired Labour	44696	9951	23726	10522	496
3	Total Direct Labour	88790	10288	29459	33919	15124
4	Supervision of Farmer including indirect labour *	26637	3086	8838	10176	4537
5	Total Mandays Created	115427	13374	38296	44095	19662
6	Mandays created per farmer	461	2675	957	441	226
II. Earnings on Account of Agriculture Labour Employment (Rs.'000)						
1	Farmers' Own Labour	1763.78	13.47	229.29	935.88	585.13
2	Hired Labour	1787.82	398.03	949.05	420.89	19.84
3	Total Direct Labour	3551.60	411.50	1178.34	1356.78	604.98
4	Supervision of Farmer including indirect labour					
5	Total Agri. Labour Income Created	3551.60	411.50	1178.34	1356.78	604.98

* Supervision of the Farmer as a %to the total labour days - 30%

Based on the cropping pattern of the village in 2003-04, crop production alone(from seed sowing to threshing) generates direct employment equivalent to 1,15,427 man-days every year out of which 88,790 man-days are direct employment at a wage rate of Rs.40 per day.

The estimate of employment is arrived at by multiplying the per acre labour engagement for a different crops with the area under these crops and then aggregating the same. Further, indirect employment in the form of supervision, preparatory work, etc. creates a substantial employment and according to the villagers which is to the extent of at least 30% of the total direct labour involvement, which has not been valuated in the present calculations.

Table 25 below indicates the extent of employment creation in Agriculture in the village:

Table-25: No. of People Guaranted Employment Through Agriculture in Upparbahal Village

Sl.	No. of Persons	No. of Days /Year	Sl.	No. of Persons	No. of Days /Year
1	100	1154	2	200	577
3	300	385	4	400	289
5	500	231	6	600	192
7	700	165	8	800	144
9	900	128	10	1000	115

As is seen from the table above the total employment creation of 1,15,427 man-days per year in crop production is equivalent to giving full employment to 1054 persons for 100 days in an year or is equivalent to giving full employment to 400 persons for nearly 289 days in an year.

The employment position in agriculture has improved over the years because of introduction of transplanatation operations through HYV paddy and the growth in the area under HYV paddy. In addition, increase in the area under labour intensive crops like cotton and vegetables have created substantial employment. It is to be noted that if traditional paddy cultivation is done following transplantation method and related agronomic practices it can generate employment equivalent to that generated through HYV paddy. But the question is whether crops like vegetables and cotton are remunerative to the farmer so that the farmer would continue to get employment in crop production in the village. A local stone quarry is able to provide 8 months employment for nearly 25 persons of the village at a wage rate of Rs.80-100 per day. While one can see this as an encouraging phenomenon by considering it as a case of expansion of employment opportunities in the village the long-term implications

are disturbing. Farmers and farm laboureres are unable to reconcile to the fact that agriculture is paying so less. Table 26 below indicates the employment from other sources in the village.

Table-26 Employment from Different Sources in Upparbahal Village

Sl.	Particulars	Unit	Estimate
1	Total Population	Nos	2000
2	Total No. of families	Nos	250
3	Total Workforce *	Nos	750
4	Total Mandays **	Nos	225000
5	Employment in Agriculture	Mandays	115427
6	Share of Agriculture	as a % of 4	51.3%
7	Employment in Stone Quarry ***	Mandays	5000
8	Share of Quarrying	as a % of 4	2.2%
9	Other Sources	as a % of 4	5%
10	Disguised Unemployment	as a % of 4	41%
11	Total		100%

* Avg. No. of Workers/Family 3, ** No. of days per Worker/ Year 300, *** No. of Persons per day 25 For No. of Days in a Year 200

As can be seen from the above table agriculture provides employment to the extent of 51% as against the stone quarry providing 2.2% while 41% is considered as disguised unemployment, which means although people appear to be engaged in agriculture and related operations in reality they are unemployed as the total employment created in agriculture is to the extent of 51% of the active work force.

13.0 Critical Analysis of the Situation:

The current situation in Upparbahal requires a critical analysis as farmers are increasingly feeling the burden of unsustainable farming practices and are apprehensive about the future food security of the village.

13.1 **Sustainability of Agriculture**

Massive deforestation in the area and change in climatic conditions (needs *to be further researched*) has led to massive soil erosion, low water retention capacity and loss of top soil. Coupled with the continuos use of chemical fertilisers and pesticides has led to soil infertility. The villagers feel that without higher doses of fertilisers productivity cannot be sustained. Although the village still has a substantial cattle population, but unavailability of sufficient feed and fodder and use of tractors may force farmers to get rid of the cattle. FYM application is still satisfactory in the village.

Farmers of the village have begun depending upon seeds from the Goevrnment and Market. With the apprehension that Goevrnment shall cease to deal in seeds the farmers shall be forced to depend upon the market only. In this way control over agriculture is steadily shifting from the hands of the farmers to the market.

All this put together indicates to high level of unsustainability of agriculture in Jambahal. But the Goevrnment does not seem to be bothered. There is no indication of any step that the Goevrnment is taking, either in the field of soil and water, technology, cost of cultivation or market for the produce. This is the reason the farmers of the village are thinking to abandon agriculture and migrate permanently to Hyderabad.

13.1 Food Security & Nutrition

The crop production of the village is just sufficient to meet the entire cereal requirement of the village. But nutritional security is yet to be reached. There is need to mainting crop productivity and diversifying into pulses and other nutritious foods for meeting food and nutrition needs of the village. Efforts in the direction of afforestation, soil and water conservation, maintaining a healthy cattle population, use of Neem seeds, leaves, etc. for pest control and improving the production practices would enhance crop production. Other areas of food production such as fruits, nuts, animal products, etc. are to be explored for this purpose.

13.2 Social Equity

There are 18families who are landless and 12 other families have very little land. Most of these families migrate for 8-10 months in a year. They do not get adequate employment for nearly 4-5 months in a year. In spite of the growth in agriculture the economic status of these

families has not improved. If there would not have been a stone quarry they might have migrated to Hyderabad like othet villes. The Government policies have not been able to create any hope for these deprived sections of the society. In fact there seems to be a negative impact of agricultural policies on the poorer sections in these areas as there is hardly any integaration of the these poor sections into agriculture. With mechanization the labour needs are also getting reduced. In fact the social status of the poor have further deteriorated.

14.0 Potential & Prospects:

14.1 Sustainable Agriculture

The village is an ideal choice for converting its agriculture into 100% organic farming in paddy and other crops. The village has the potential to lead the entire district in this endeavour as it has done in other fields. This is a great prospect for the village as the village has all the basis for organic farming as has been listed below:

i. The farmers of the village arehardworking and no-nonsense type farmers. They are untouched by the so called modern living and livelihoods. They like agriculture and are proud agriculturists. In fact many of the farmers of the ville are pioneers iin their own right and they are beginning to realise the importance of sustainable agriculture.

ii. The village is full of Neem trees. If the Neem seeds are collected(presently villagers do not collect as it does not fetch a good price- Price ranges around Rs.1/Kg.) and convereted into oil and oilcake, the oilcakes can be used as a manure and the oil as a pesticide. The villagers can sell some surplus oil and oilcake.

iii. The village has a thriving animal husbandry with great potential for its expansion. If adequate care is taken and this animal population is developed into a healthy bunch not only it would add extra income (by milk, eggs, sale of bullocks, etc.) but would be able to meet the entire drought power required for agriculture and FYM. If Gobar gas plants can be installed not only quality of FYM shall increase but the villagers would not have to cut forests.

iv. Since the undergroud water potential has been already tested and farmers have got positive results, the village can go for further taping of underground water in a planned manner. The water harverting potential of the village, which is quite substantial, should be developed to tap the rain water which would be sufficient to retain enough moisture for crops round the year.

v. If the 100 acre forest land can be developed with proper plantationin a few years time the village would not only get a good green cover but also a lot of fruits, fodder and other items of use.
vi. The village already has a number of traditional paddy seeds. Many more could be collected from adjoining villages. The same can be done in the case of other crops. As regards cotton appropriate technology has to be explored in other states and even cotton can be grown organically using traditional seeds.

If organic farming is adopted by using scientific methods it has the potential to develop agriculture into a sustainable livelihood for villagers as the cost of cultivation would come down drastically, farm income would go up and with increased crop coverage in rabi season, agriculture in the village would generate substantial employment for all the villagers.

Scientific organic farming would be a befitting strategy for the hardworking and enthusiastic farmers of the village, who have the potential to spread organic farming beyond their village. Organic farming is a wholistic concept. It involves crop lands, it involves the cattle and the animals, it is related to the flora and fauna of the area, locally produced impelements play an important role. The different benefits of organic farming would be:

- Sustainable growth in crop production that can reach to levels far in excess of the so called HYVs,
- Nutritive and healthy foods free from pesticides,
- Pure water and air without any contamination with chemical fertilisers or chemical pesticides, teherby reducing many health problems that is associated with fertilisers and pesticides,
- Stable cost of cultivation at a lower level and not depenedent upon the market for agricultural inputs. Everything shall be available in the village itself or at most in the nearby village,
- Steady rise farm income per acre for all types of farmers,
- A number of other crops can be grown round the eyar and animal husbandry can be taken up in a substantial way.
- All this would enhance employment in the village itself.

14.2 **Farmers' Co-operatives**

In order to organise organic production and provide a stable market for the farmers' produce, a farmers' co-operative can play a very important role. With enactment of the Orissa Self help Co-operative Act, 2001 as an Act parallel to the existing Orissa Co-operative Societies Act, 1962, the state Government has given some chance for the farmers and the poor people to organise themselves to take control over ther own livelihoods. Many co-operatives have been already formed in the Orissa and they are able to give genuine co-operative services to their members and the Goevrnment has absolutely no power to interefer in its affairs. The villagers can form their own self-reliant co-operative with some assistance and take control over their own agriculture and their lives.

There could be many other prospects. But the two described above could be the starting points. The Goevernment should come forward.

Conclusion

The case of Upparbahal is a classic case of so much potential not realsied so far. No amount of intiative other than strengthening agriculture would give sustainability to the lives and livelihoods of the villagers. There is a need to believe the capacities of the people and provide assistance as is wanted by the villagers. If the Goevrnmetn does not understand these findings it would only be termed as working for a vague developmental model instead of a developmental model which is very much possible and shall remain under the control of the villagers.

SECTION II: FORESTRY SECTOR

Background

Orissa is abundant with natural resources – Land, Water and Forest. The state has an area of 1,55,400 sq. kms (4.74% of India's landmass) with a population of 36.71 millions (as per 2001 Census). Forest is one of the most important natural resources that cover about 37% of the total landmass of the state. The state is characterized with four forest types namely Tropical Semi Evergreen, Tropical Moist Deciduous, Tropical Dry Deciduous and Littoral and Swamp Forests. The recorded forest area is 5.72 million ha. By legal status, the forests are broadly categorized as Reserve Forest, Protected Forest and Un classed Forest. The Reserved Forest constitutes 47.37%, Protected Forest 52.60% and Un classed Forest 0.03% of the total forest area of the state.

The concentration of forest is high in scheduled areas, which cover approximately 44.70% of Orissa's land area and substantially large tribal population. Over 23% of the state's population is comprised of tribals. Forests occupy a centre -stage in the lives of tribals and other marginalized sections of the society. They share ethical, cultural, social relationship with natural resources, which brings them closer to the nature to live with it. Besides, the tribal's livelihood pattern is dominated by forest resources. Again the other marginalized sections in these pockets being alienated from various resources (land, water etc.) heavily depend on forest and forestland. Shifting cultivation on forestlands is a customary practice extensively found amongst the tribals that provides food for 7-8 months in a year. Apart from this for a large chunk of other forest dependent groups 25-75% of the total annual income comes from forest products particularly, the NTFPs. It is in this context of the importance of NTFPs on the lives and livelihood of poor tribals the Roy Burman Committee set up by the Planning Commission on Forests and Tribals in India headed by Prof. B.K. Roy Burman, has recommended that collection of Minor Forest Produce (MFP) for food and cash income should be conceded as the right of the tribal families without restriction.

The forestry sector in Orissa has undergone several developments leading to changes in forest situation and has had major implications on the relationship between forest and people. The forest neighbouring people are being increasingly alienated from their resources. This alienation process started since during the colonial period when forest reservation was begun

with curtailment of rights and access of people vis-à-vis forest. The laws formulated by the state after independence to govern the resource strengthened the alienation process. Thus, the most important factors that contribute towards this alienation process are attributed to problems lying in land survey and settlement processes, creation of reserved forest and alienation of private land of the tribals.

In Orissa 5298 sq kms of forestland is estimated to be under active shifting cultivation by the tribals. These lands being cultivated by the tribal people for last so many generations have over the period got declared as government lands and or forest areas. Thus, the cultivators without patta (title deeds) are under a constant threat of being evicted by the state being termed as encroachers of forestlands. The threat has intensified with the recent judicial interpretation of 'forest' expanding even to revenue areas consisting of tree cover. The figures relating to regularization of encroached forestland submitted by the state government to the Supreme Court in response to MoE&F's order is highly underestimated and hides the actual situation. The expansion of Reserved Forests following the independence seems to be another attempt of the state to increase its control over forest resources. Through blanket declaration vast forest areas were brought under 'Reserved Forest' and 'Protected Forest' categories squeezing the access and traditional rights of local communities. The Wildlife Conservation law of the State is based on exclusionary principles and ignores the man-animal relationship inside the protected areas. The recent enactment of Wildlife (Amendment) Act 2001 followed by the Supreme Court's order banning NTFP based livelihood activities inside the protected areas meant strengthening the grip of the state and all access to these areas closed.

On the other hand, for a long period the state exercised monopoly control over Non-Timber Forest Products which generated good amount of revenue. Free market of NTFPs (68 items) was brought in the year 2000 so as to ensure better prices to the collectors and empowering the local democratic governance institutions (Panchayatiraj Institutions) to control and manage the procurement and marketing of NTFPs. However, these good intentions of the state got confined within the policy document and efforts necessary to make the objectives realistic are still missing. Again, NTFPs like Kendu Leaf, Bamboo and Sal Seed that still commands a value in the market continues to be under the control of Forest Department.

Thus, looking at the policies and practices and the role of the state in the context of forestry sector, speaks about marginalisation and disempowerment of the tribals and other forest dependent sections resulting due to their alienation from the natural resources that form livelihood base. It is a paradox that the resources that meets the basic necessities of these people are snatched away from them causing poverty on the other hand, crores of rupees are being spent by the state for the welfare of the same tribals every year.

Amidst all these developments a peculiar situation exists in the state. Orissa demonstrates excellent examples of numerous community based forest protection and management efforts, which have helped in regeneration of huge tracts of degraded forest areas. These community efforts are self-initiated, innovative and have sprung up in a natural process. Over the period there have been several policies and programmes, which have affected the CFM groups in several ways. Orissa happens to be the first state to recognise people's involvement in protection of forest and enacted a policy on this line in the context of Reserve Forest in the year 1988. Subsequently, this policy was extended to Protected Forests in 1990 and in 1993 popularised JFM programme was launched. These efforts were meant to make the community co-partner in the process. However, in practice intentions of these policies have rarely taken shape rather have led to emergence of new conflicts and contradictions at the grassroot level.

The present study deals in detail the emerging issues as mentioned above within the forestry sector. Attempts have been made to understand the origin of the issues and implications of the same on the lives and livelihood of the poor people particularly the tribals and other marginalized resource dependent communities. The forestry sector in the state is passing through a very critical time today. The sector has inherited a host of problems from the past. The present changing policy environment adds up new problems to the list. This study examines the policies and programmes developed in the context of forestry in different periods particularly from the perspectives of rights of the community and their livelihood security. Emphasis has been given on issues related to Non-Timber Forest Products looking at the immense significance of these on the livelihood of the rural poor.

Chapter 1: Forest Management Vs. Community rights

The pre-independence period forest history is the least documented chapter in Orissa history. Causes of such negligence could be many and needs an in-depth analysis but certainly reflects the perspective of mainstream Orissa in relation to forest. In this section an attempt has been made to bring together the bits and pieces of information available to chart down the forest history of Orissa particularly, looking from the perspective of people's access, rights and control over the resource.

Pre-independence Period

Forest administration started in Orissa more than a century ago in 1883-84 while it was a part of the Lower Province of Bengal. Prior to the integration of the ex-states in the year 1948; forests of the State were broadly classified into 3 categories:

(i) The State forests which were under the management of Forest and Revenue Departments.

(ii) The Forest of the Princely states of the Eastern States agency and

(iii) The Zamindary forests which were either under the Princely States or the State Govt.

The State forests were governed under Indian Forest Act, 1878 and Madras Forest Act, 1882. The Indian Forest Act, 1878 created three classes of forests namely, Reserved Forests, Village Forests, Protected Forests (Demarcated Protected Forests and Un-demarcated Protected Forests) while Madras Forest Act, 1882 classified forest into two categories Reserved Forests and Unreserves though section 26 of the same was used for the recognition of three categories of forests (Reserved Lands, Protected Lands and Unreserved lands) practically more or less similar to the categories recognised in the Indian Forest Act, for areas that were under the disposal of the Government but not included in Reserve Forest. Reservation of forest blocks (under sect 19 of the IFA, 1878) by the state dates back to the year 1884, which for the first time was implemented in Angul and 691 sq kms. of forest areas were declared as RF. Over the period the extent of Reserve Forest areas increased rapidly, thus prior to the merger of ex-princely states in the year 1948 the total Reserve forest in the State amounted to 3614 sq kms. Meanwhile, the total Demarcated Protected Forests and Reserved Lands in the State measured 541.10 sq kms and 3285.44 sq kms respectively.

The ex-states had their individual forest administration system. Except Mayurbhanj ex-state, almost all other ex-princely states were guided by the Chief Forest Adviser appointed for the Eastern States Agency, in administration and management of their forest areas. Most of the forests in the ex-states were kept under reserve category. In these forests the ruler had the paramount rights. Here, it ought to be noted that many of these Reserve Forests were of two class; 'A' Class Reserve Forest and 'B' Class Reserve Forest, the latter class being equivalent to the Demarcated Protected Forests and the former, to the actual Reserve Forests. After merger of the ex-princely states, these Reserve Forests irrespective of categories were granted the legal status of Reserve Forest under section 20A(introduced through an amendment in 1954) of the Indian Forest Act, 1927 resulting into a sudden increase in the Reserve forest areas during post-independence period.

The management system of the Zamindari forest differed from Zamindari to Zamindari and was dependant on the rights given to the Zamindar either by the ruler of the Princely state or the Colonial government. As mentioned in the Forest Enquiry Committee Report of Orissa, 1959 "in many of these forest no forest act was in force. They were managed under the rules framed by the proprietors". But in certain Zamindary areas like Koraput, Khallikote, Athagarh, Parlakhemundi and Dharkote the Madras Forest Act, 1882 was in force and the local rules were framed under the same for management of these forests. The Dalijora forests had been reserved under Indian Forest Act. Application of the Indian Forest Act or Madras Forest Act in such private areas was either because the proprietor requested for the same, or the Estate (Zamindary) was under Court of Wards. After Zamindari abolition (1951) these forests remained first under a temporary(transitional) system of administration known as the *Anchal Sasan* when there was hardly any attempt for their systematic management . In 1957, the Anchal administration was over and some of the forests were transferred to the Forest Department. The exact figures of the Zamindary forest areas though are unknown but it is estimated that 20117 sq kms. of forests were transferred to Forest Department (Report of the Forest Enquiry Committee Orissa, 1959). The Zamindar controlled forests were exploited heavily for realizing maximum revenue, in-fact, these Zamindars acted on the principle that " Timber is an excrescence of the Earth provided by God for payment of debts"(as quoted in Forest Enquiry Committee Report, Orissa, 1959). To cite one example the Final Report on the Major Settlement operations in Koraput district mentions " The Maharaja had an average income of about Rs. 950000 before abolition".

Thus, during the pre-independence period, following the Colonial forest policy forest got divided into various types: State Forests, Forests under ex-princely state and Zamindari forests. Administratively different areas had different arrangements like, in some places Madras Forest Act, 1882 was in rule in some other Indian Forest Act, 1927 and in the rest areas they had their own rules and regulations. However, one crucial feature of the management was that forests started to be seen as resources to be exploited for revenue earning for which reservation of forest areas was initiated both during British rule as well as in the Princely states. Reservation of forests abolished customary rights of people and restricted their access over the resources in a big way. These kinds of restrictions imposed on people faced intensive resistance in different parts. The third and fourth decades of 20th century were marked by a series of people's movement in Orissa, especially in the ex-princely states area. These movements are known as Prajameli Andolan where one of the primary demand was to have rights over forest by the people. Though in some places at least in paper the then rulers acceded to people's demand and gave better rights to people but in most of the situations the movement was crushed.

Post-independence Period

The forest sector in Orissa has largely followed national trends, emphasizing on consolidation and integration of forest of ex-Zaminadri and Princely states during the first and second Five Year plan. Thereafter, the emphasis was on raising commercial monoculture plantations following commercial felling that was initiated during the first decade of 20^{th} century. The process of commercial felling included leasing out forest areas to the private timber traders mostly coming from outside states like Madhya Pradesh, Andhra Pradesh etc. which caused destruction of vast areas of forest. For instance, from 1917 to 1960 one private company named M/S H. Dear & Co. was given on lease forest areas of Kotpad, Nowrangpur, Ramgiri, Malkangiri and Umerkote ranges for extracting Sal timber. The forests in Malkangiri, Mottu and Ramgiri ranges comprising of valuable timber species like Teak, Bija, Sisoo, Hallender etc. were given on coupe to M/S Mottu Industries during the period 1937-1959. Like wise, forest ranges of Bissam Cuttack and Gudari were given on lease to M/S B.T.T. Co to harvest timber during the period between 1948-53. In the year 1960 Orissa Forest Development Corporation Ltd. (OFDC) was constituted under territorial forest department to do trading of timber for revenue generation.

Reservation of Forests/ Creation of 'Deemed Reserved Forest'

Forest reservation had begun in the pre-independence period. Immediately after independence the state witnessed quick growth of reserve forest areas following the merger of ex-princely states. The total area of demarcated forests inclusive of Reserve Forest, Demarcated Protected Forest and Reserved lands jumped from 7440 sq kms. to 26322sq kms. after the merger of ex-princely states in the year 1948. The princely states had constituted their own rules and regulations under IFA, 1927 or had their own Act. Through an amendment (20A) by the state government in the IFA, 1927 in 1954 and under OFA, 1972 [Section 81(1)] all the forests under the ex-princely states were deemed to be Reserved Forest. Further, forests under the ex-states excluding the reserve forest areas shall be deemed to be protected areas as per Section 18(4) of the OFA, 1972. To cite an example, in undivided Koraput district, Reserve and Protected forests constituted under Madras Forest Act, 1882 after merger with the State of Orissa were deemed to be Protected Forests as per Section 33(4) of Orissa Forest Act, 1972. Thus, the blanket declaration of all kinds of forest irrespective of their category as Reserve (Reserve 'A class' and Reserve 'B class' forests) or Protected Forests (Non reserve forest areas like Khesra Forest) deprived the people from certain rights that they enjoyed traditionally on Reserve B class forest and Khesra forest.

As per the IFA, 1927 final notification of Reserve Forest is preceded by certain processes like survey of the area and settlement of rights of local people. However, the actual situation in most of the cases where Reserve Forest and (also Protected Forest) has been constituted presents a different reality. It seems that in these areas the process has not been implemented properly and in a transparent manner as a result of which survey and settlement of rights have not taken place in accordance with the provisions of the Indian Forest Act, 1927 which, has had far reaching implications particularly on the tribal communities. In absence of survey and settlement, forestlands brought under cultivation and habitation by the tribals got included under Reserve Forest or Protected Forest category. This has happened particularly in areas where forest areas were left out of Revenue Settlement processes. Alongwith, there exists instances of unfair means being adopted by forest officials during the demarcation of reserve forest resulting into impringement of rights of the tribals which have a mention in different government reports and records. As documented by Verrier Elwin in 1930s-40s, Kondh villagers were approached by Forest Guards who had orders to demarcate "Reserve Forests", and how in almost every case the Forest Guards demanded bribes, and if the villagers refused

to pay, he designated forest fallows which the Kondh habitually used for shifting cultivation as Reserves (Padel, 1995 as quoted in Issues of Land and Forest in Scheduled Areas of Orissa, Vasundhara 2004). Further, in the Report on Land Tenures and The Revenue System of the Orissa and Chhatisgarh States, R.R. Ramdhyani has mentioned that, "+++ the position as regards forests while containing scope for improvement, does not appear to work hard upon the cultivator. +++ to a large extent it has been one sided, that is, there has not been an adequate stress of the opposite view. +++ in many places it seemed that decisions had been taken without an adequate consideration of objections, and the forest department generally decided according to its own judgement. Reservation of forests have so far been made with little consideration for the interests of cultivators and probably by summary orders". These points out the policies and practices that have resulted into alienation of local people from forest resource in different point of time.

Forestland cultivation and rights of people

Due to faulty and improper implementation of forest settlement processes, most of the forestlands, which were put under, settled and shifting cultivation got declared as Reserve Forests and Protected Forests. The total shifting cultivation area in the state ranges from 5298 sq. km to 37,000 sq. km.(Refer Table - 1)

Table 1: Estimates of area under shifting cultivation in Orissa

Source of Information	**Estimates of area under shifting cultivation in Orissa**
FSI, 1999	5,29,800 hectares under active shifting cultivation in the year of survey
N. Pattnaik, 1993	37,00,000 hectares of shifting cultivation area
A Decade of Forestry, GoO, 1995	26,49,000 hectares of shifting cultivation
Forest Enquiry Report, GoO, 1959	3072000 hectares of shifting cultivation approximately

(Source: Kumar Kundan and Rao Y. Giri, Perpetuating Injustices: Tribal Rights and forestland cultivation in Orissa, 2004)

The above table shows the extent of shifting cultivation in the state, which is a common practice amongst most of the tribal communities contributing significantly in their livelihood. But, unfortunately, the rights of the shifting cultivators on these lands are not recognized despite of the fact that the tribal communities are using these lands since generations. Over

the period shifting cultivated areas like those located in hill slopes were either declared as government land or got converted into forests, which meant the 'state property'. The rights of people in case of settled cultivation on forestlands is also not properly settled and is highly disputed. It may be noted here that in 1990 MoEF, GoI issued a set of orders for regularization of some forestlands under tribal occupation. However, there lacks serious efforts on the part of State and not much has been done in this regard. Only in small parts land over 30% slope in Kashipur Block of Raygada district and over 10% slope in few other scheduled areas has been settled with the tribals.

Meanwhile certain new developments have taken place, which is highly threatening, to the rights of tribals residing and cultivating on forestlands. The Supreme Court on its hearing in Godarvarman case stressed on strict enforcement of Forest Conservation Act, 1980 following which MoEF, GoI issued orders for eviction of tribals living and cultivating forestlands in the year 2002. In response to MoEF orders GoO has submitted an affidavit to Supreme Court which shows that 47,304 ha of forest areas in the state are under encroachment of which only 4729 hectares are pre-1980 encroachments and eligible for regularization. The information presented by the state government doesn't present true situation existing at the ground and the actual figures are much higher. (see Table - 2)

Table 2: Inconsistencies in official data about encroachments

Data submitted by GOO to MOEF/Supreme Court on forest encroachments	**Data from other official sources**
42605 hectares in whole of Orissa (Both pre 1980 and post 1980 encroachments).	As per Nowrangpur Working Plan, 1999-2009, in Nowrangpur division alone, **35,000 hectares** of forestland are under settled cultivation in contrast to the figure of 18129 hectares reported by the GOO in the data submitted to MOEF. According to another official document(A Status Report on Forest and Forestry in Koraput Circle – 97-98, GoO, 1998) in 1998, **46,126 hectares** of forest lands were under encroachment in Nowrangpur Division alone.
1633 hectares total encroached area in Jeypore division	A survey of only 99 villages in part of Jeypore Division (the division has over 1000 villages) by the Campaign for Survival with Dignity (CSD) revealed that more than

	1400 hectares of land were under pre-1980 cultivation. Another 879 families stay on forest land in Kotpad and Boipariguda blocks within Jeypore Division (Census of India, 1991).
Pre-1980 encroachments for the whole state submitted for regularization by the GOO : 4729 hectares for 5113 families	In Nowrangpur Division, the Working Plan enumerates 23039.45 hectares as pre-1980 encroachments. Pre-1980's claims collected by CSD from a small part of forested areas of Orissa for only settled cultivation add up to approximately 20,000.

(Source: Perpetuating Injustices: tribal rights and forestland cultivation in Orissa, Kundan Kumar and Y. Giri Rao, September 2004)

From the above table it can be deciphered that the estimation made by the state government on forestlands brought under cultivation falls short of accuracy. Some of the official documents and estimation carried out by people's organisation as shown in the above table presents that the actual areas of forestland under cultivation are high. Another important thing is that, this figure doesn't include the shifting cultivation areas. It appears that if all these lands are included the figures submitted by GoO in the petition to MoEF will increase to more than ten lakh hectares.

All these processes attempts towards snatching away the rights of people and taking away their resource with which their lives and livelihood is intricately linked. Alienation of poor tribals from forests naming them as encroachers and destroyers of forest seems ironic when vast forest areas in the state are being destroyed in the name of development projects. Since independence till the date (31.03.2003), 226622.32 hectares of forest areas have been diverted for different kinds of development projects in the state out of which 27274.45 hectares were diverted particularly after the enactment of Forest Conservation Act, 1980. (Refer Table - 3) Diversion of forestlands has been mainly for mining projects &irrigation, which comprises 34.72% & 22.34% respectively of the total forest area diverted for non-forestry purpose. Mining is the fastest growing sector in the state. The value of mineral production has increased from Rs. 16340.3 millions in 1995-96 to Rs. 26,050.5 millions in 1999-00. The problems originate from the fact that a substantial portion of mineral wealth occurs in the forestland where neither a proper demarcation of forest boundaries has taken place nor the rights of the people, especially of the tribal people, have been settled.

Table 3: Sectorwise Forest Area Diverted for Non-Forest use (under Forest Conservation Act, 1980)

Name of the Sector	**No. of Projects**	**Forest area diverted as on 31.03.2003 (in. Hect.)**	**Percentage to total area diverted for different projects**
Irrigation	59	6092.4829	22.34
Industries	5	2406.086	8.82
Mining	77	9469.4384	34.72
Transmission line	44	2723.4265	9.99
Roads & Bridges	25	197.81225	0.73
Railway	5	1965.0287	7.20
Others	32	4420.179	16.21
Total	**247**	**27274.45**	**100**

[Source: Orissa Forest Status Report 2003-04, PCCF, Bhubaneswar, Orissa.]

Protected Areas and Wildlife Policy

For protection and management of wildlife, Wildlife Protection Act, 1972 was enacted and the areas governed under this act are declared as Wildlife Sanctuaries and National Parks. [11]At present 8111.55 sq. km (5% of the state land area) is under protected area and most of these areas are in the Scheduled V areas where the tribal population is high. This is a draconian act, enactment of which restricted people's rights and access to the areas converted either as Wildlife Sanctuary or National Park like entry to these areas, access to basic services and livelihoods surrounding the forest resource. The interesting feature is that most of the protected areas have not been finally notified except one (Section 26, Wildlife Protection Act, 1972) and settlement of rights has not been completed (Section 19-25, Wildlife Protection Act, 1972). Further, Wildlife protection Act (Amendment) 2001 enables the state to suspend all the rights by simply declaring its intention to convert a particular forest area into a protected area (Section 25A of Wildlife (Amendment) Act, 2002). The wildlife policy doesn't recognize the customary and non-recorded rights like NTFP collection, shifting cultivation and the customary uses of other natural resources water. However, for a large population and

[11] In the state another 18 protected areas are in the pipeline besides two new protected areas i.e., South Orissa Elephant Sanctuary and Brahmani-Baitrani Elephant Reserve spreading over a total 18,273.06 sq km thus, total protected areas expanding to 10% of the total state's area(Times of India, 3rd September, 2004).

more particularly, the tribals these means form an important source of livelihood and sustenance. This meant loss of livelihood for the people residing in and around the protected areas in absence of any alternatives or compensation. Meanwhile, the Supreme Court's order banning collection of forest products (including NTFPs) from protected areas (dated 14.2.2000, in WP No. 202/95, in the year 2001) made the restrictions more stringent thus, results into closure of all kinds of livelihood options related to the forest. The severity of impacts of these policy decisions on the lives and livelihood of people can be assessed from the following few examples.

Satkosia Gorge Sanctuary geographically spread over Angul, Cuttack, Nayagarh and Boudh districts consists of 102 villages. Forest based activities like bamboo harvesting, kendu leaf plucking etc. contributed significantly in the household income of people in this area. Bamboo harvesting provided livelihood to around 5000 families people for nearly 8 months in a year. At an average, a family used to earn Rs. 4000 to 5000 in a harvest season. These people lost this income following the stoppage of bamboo harvesting operation in the year 1997. It may be noted here that during the period 1988-1996, bamboo harvesting created five lakh mandays wage labor and cash wages of Rs. 15,452,575. Likewise, 1053 families from 23 villages carried out kendu leaf plucking to earn their livelihood. In 2000, all the 11 Kendu leaf phadis were closed down by the state and no alternate livelihood earning opportunity was created for the people. An average poor family earned more than 500 rupees in a KL season. KL collection alone, created more than 20000 mandays and a total Rs. 576,936 were given as wage labour to the pluckers over a period of 25 days in the year 2000. In the table - 4given below detail wage labour paid to KL pluckers in different years has been mentioned:

Table 4: Production of Kendu Leaf and wages earned by the pluckers in different years inside the Sanctuary

Year	**Total Kerry**	**Cost per Kerry (in Rs.)**	**Total wage labour paid (in Rs.)**
2000	3605850	0.16	576,936
1999	4049080	0.15	607,362
1997	3883250	0.12	465,990
1996	3913680	0.11	456,595

(Source: Livelihood issues in Satkosia Gorge Sanctuary Orissa, Vasundhara, 2004)

The situation as in Satkosia Gorge sanctuary can be found in all the protected areas which demonstrates the problem lying within the 'conservation model' adopted by the state that is based on exclusionary principles. In the name of wildlife conservation the state seeks to expand its control over all the forest areas by excluding people and curtailing all their rights being enjoyed by them over these resources.

Policy shifts in forestry sector

The existing legal framework for forest management and administration is based on Indian Forest Act 1927, which was framed by British Government to protect their interests in forests. They introduced new concept of 'Property regime' in forestry sector and classified the forest area into three broad categories e.g. Reserve Forest, Protected Forests and Village Forest with an intention to alienate the rights being enjoyed by the indigenous people and exploit the resource for revenue generation. As a result of this, the common resource became the 'State Property' and the traditional rights of community got converted into 'privilege' and 'concession'.

This act formed the basis of enactment of Orissa Forest Act, 1972 , which was the first major attempt to bring uniformity in forest administration and management in the State. As such the new Orissa Forest Act 1972 didn't bring any change in terms of increased rights and concessions for the locals over the resource. The act holds two primary objectives i.e. revenue maximization and meeting the demand of forest products required for industries and commercial purposes. Thus, in a sense the act only formalised the process, which the state was following since independence.

After mid - 80s the forestry sector in the state witnessed several significant events. As an outcome to mounting pressure from forest protecting groups and growing realization by the State that forests can be better protected with the participation of communities, Government of Orissa came out with joint forest management policy in the year 1988.

Forest Policy, 1988

The policy issued by Forest & Fisheries and Animal Husbandry Department, GoO on 1st August 1988 was first of its kind that provided basis for people's participation in protection

of Reserve Forests [Resolution No. 10F (Pron)–47 / 88 / 17240 / FFAH]. The policy seemed to give special importance to representation of marginalized sections such as Scheduled Caste and Scheduled Tribe along with women and landless. Orissa state was the first in the country for coming out with such kind of progressive forest policy giving primacy to local needs and involvement of local people in forest protection even before the National Forest Policy of the country was developed as on 7th December 1988. The formulation of National Forest Policy 1988 is considered to be a remarkable episode in the history of forest sector in the nation for giving priority to people's need and involvement of people (with emphasis on women's participation) in protection and management of forests over commercial gains of the State.

Forest Policy 1990

The above provision i.e. inclusion of community in protection of Reserve Forest areas was extended to Protected Forest areas by issuance of another resolution by Forest, Fisheries and Animal Husbandry Department, Government of Orissa in the year 1990[No. 10F (Pron)-4/90/29525/FFAH, dated 11.12.90].

Unfortunately, these resolutions didn't offer much to the CFM groups except that the villagers would be getting some of their bonafide requirements such as fuelwood and timber free of cost fulfilled from the forest areas brought under protection. These remained silent on the aspect of giving recognition to self-initiated community forest protection initiatives and tenurial rights to protecting groups on which they had been advocating for long.

Joint Forest Management Resolution, 1993

To operationalise the objectives of National forest policy, 1988 the state government formulated a resolution in the year 1993. This resolution issued by Forest and Environment Department of the State on 3rd July 1993 more in the lines of JFM approach adopted by other states. This seemed to be comparatively a progressive one than the former resolutions in the sense that Joint Forest Management professed to involve and treat local communities as equal partners in management of forests. Further, JFM resolution offered a 50% share in any major/ final harvest and 100% of intermediate products to forest protection committee, termed as Vana Samrakhan Samiti (VSS) in Orissa. However, experiences at the ground level revealed that JFM doesn't go alongwith the efforts and spirit of local community. Following this in 1996, the State issued another resolution that can be termed as "revolutionary" in some

respects. This happens to be the first resolution in the country that seeks to bring some changes in forest tenure by providing for declaration of forest patches being protected by villagers as ‘Village Forests’ as per the provisions for Village Forests under the Orissa Forest Act. However, due to several reasons this resolution has been a dead letter and virtually no action has been taken for its implementation.

Thus in a nutshell, the JFM resolution basically reflected the followings:

- JFM used the local communities not as a co-manager or equal partner but as sharecropper.
- JFM resulted in increasing the powers of FD and shrinking the powers of the communities.
- The concept of ‘Community’s Involvement or Participation’ was being used as a strategy to help the Forest Department in protecting forests in a cost-effective manner.
- Reserved Forests still continue to remain ‘Reserved’, though the concept of being reserved for National forestry needs is obsolete in current context.

Chapter 2: Community Forest Management and State Response

Orissa's about 37% of the total geographical area is forest area. Most of these forests are concentrated in schedule V areas consisting of high tribal population. Further, Orissa occupies the second position in becoming the most poverty stricken state in the country. 48.6% of the total population of the state primarily residing in rural areas lives below the official poverty line. Forest produce particularly NTFPs contribute significantly in the livelihood of rural population. Studies undertaken by several institutions shows that contribution of income from NTFPs to the total income of poorest households ranges from 15% to 50% and above in some cases. This critical dependence on forest for sustenance led the communities initiate forest protection in large scale following degradation of the resource.

The forest of the State have been intensively degraded by the mid of twentieth century resulting into acute scarcity of forest products. Forest degradation had other implications too, such as, soil erosion, erratic rainfall, siltation etc. affecting the agricultural production. The impact of drought and crop failure on local people became more acute in the absence of the life-sustaining food-flow from forests. In response to such crisis several thousands of villages in the State came forward to protect and regenerate forest areas close to their habitation. Over 5000, out of 12000 villages situated within or near forests are actively engaged in forest protection and management in the state. (Based on a survey undertaken by an NGO RCDC, 2001 as quoted in Local Forest Management, The impact of devolution Policies, Edmunds David and Wollenberg Eva, 2003)

The history of CFM dates back to 6/7 decades ago in the state. For instance, Lapanga village in Sambalpur district has started forest protection in 1930s. Some examples are also found to be documented in the government reports like Report of the Forest Enquiry Committee, Orissa, 1959 that has a mention about two villages Maidalpur in Nowrangpur and Gamaridhi in Sundergarh in which the people were engaged in protection of forests

Distribution of CFM in tribal areas
(Vasundhara, 2004)

	Percentage of tribal population	
	<30%	> 30%
Dists. having CFM	12	13
Information available	11	11
Forest protecting groups	3404	4383

within their village boundary. Community based forest protection and management arrangements were developed gradually spreading up throughout the state. These community processes gained momentum during 80's. Community actions in forest protection took a lead in those areas, which experienced resource degradation earlier in comparison to other areas. Further, the tribal pockets in the state exhibit more concentration of CFM in comparison to low tribal populated areas.

Community protection can be found in all types of forest i.e. Village forest, Reserve forest and Protected (Revenue) forests. Local institutions evolved diverse institutional arrangement and management system to protect and regenerate forests. Protection system(s) comprised of one or a combination of arrangements such as merely keeping an eye, Thengapalli i.e. voluntary patrolling on rotation basis or paid watchmen. At the ground level the resource based institutions taking up the task of forest protection and management exhibits varied arrangements such as, an exclusive Forest Protection Committee or Council of Elders or Youth Clubs or in some cases, women groups. The forest areas brought under community protection varies from a few hectares to 1000 hectares. The protection and management systems developed by CFM groups embrace rules for restricting access to forests, regulating use and penalizing offenders.

Impacts of Community Forest Management: Forest regeneration and Livelihood improvement

As mentioned above communities started protection of degraded patches resulting into regeneration of forest cover in these areas and has started providing varied substances for subsistence and livelihood. The restoration of forest quality enabled the local communities to meet their local requirements of fuelwood, food, construction and agricultural implements. Besides, improvement in forest conditions regeneration of forests led to improvement of water regimes, increase in soil fertility, reduced soil erosion, regularity in rainfall etc. Also, forest regeneration led to availability of NTFPs

Growth of forest areas under community protection

As reported in the State of Forest report 1999 published by Forest Survey of India there has been a remarkable increase in forest areas in Mayurbhanj and Balangir districts of Orissa of 90 sq. km (34.74 sq miles) and 10 sq. km(3.86 sq. miles) respectively between 1997 and 1999 as a result of JFM. Whether CFM or JFM, in both cases communities protect the forests.

and medicinal herbs, providing livelihood support to many NTFP gatherers and the Vaidyas (Herbal practitioners). Loss of forest imposed threat to the livelihood of forest dependent sections compelling them to migrate to nearest towns to work as casual laborers. CFM has helped the forest dependent sections in these areas in resuming their livelihood from forest.

CFM: Regeneration of forests contributing to livelihood enhancement (Vasundhara, 2000)

NTFPs play a very important role in the livelihood of landless and marginal farmers in Aonlapal village of Balasore District, Orissa. These sections of the society are dependent on Sal leafplate stitching for livelihood. Following forest destruction their livelihood got severely affected as a result of which members of some landless families moved outside to nearest town. The return of forest cover under protection efforts by the villagers has had dramatic impacts on the lives and livelihood of these people. With the start of NTFP flowing from the regenerated forest, migrated individuals returned to the village to continue with their old occupation. The landless earn around Rs 8000-9000 annually from sal leafplate activity, while for the marginal farmers it forms a seasonal work giving them an income of Rs. 4000-5000.

In many villages where CFM exists forest has a role in village development activities. Income derived from forest sources like cleaning and thinning, auctioning out fallen, decayed wood to neighbouring villages, fines etc. are used for creating village assets. There are several villages in the state where the CFM groups are found to have constructed village post-office, community hall, repaired schoolhouse etc. from forest fund. In some cases the fund is also utilised to lend out loans at low interest to poor and needy persons in the village.

State response to community forestry initiatives

Despite of the fact that several thousands of communities in Orissa have been nurturing forests by evolving their own protection and management mechanisms, the State has not given them the due recognition nor has it worked towards creating an enabling environment for promoting these groups. These get exemplified looking into the policies and programmes developed by the state in the name of forest protection and development in past.

The Social Forestry Project was launched in the State in mid eighties funded by an international donor agency, SIDA (Swedish International Development Agency). The

programme was seen as the resolution to degradation of natural forest by arresting pressure over the resource for fuelwood and fodder for which huge money (Rupees 16, 711 Lakhs) was spent in creating village woodlots in different parts during the period 1984-96. Interestingly, instead of strengthening community forestry initiatives that existed in large scale, the state adopted a concept, which hardly had any focus for sustained regeneration, protection and conservation of natural forest. The focus shifted from natural forest area to non-forest areas, diverting investment from the natural forests resulting into fund scarcity for development of natural forest areas. In many cases the common lands (these lands categorized as wastelands were de jure under the control of Revenue Department) on which the woodlots created were used by the local poor communities for growing crops, eventually lost access to these lands in the process.

In the initial period local communities showed enthusiasm in the programme but, over the period their interests degenerated looking into the adverse impacts. Emphasis was given on exogenous species like Acacia, Eucalyptus instead of local species, which the local communities found of little importance to them. In many areas the communities have undertaken clear fellings for providing timber to paper mills and timber industries thus, the social forestry plantations stands completely barren land. In- fact, through this programme the timber industry and paper mills accrued more benefits than the rural communities.

By mid 1980s CFM movement had gained momentum in Orissa and CFM groups had started demanding for legal recognition. During this period from 1986-88 forest protecting villages from all over the state supported by academics, social activists and NGOs initiated a post card campaign addressed to the then Chief Minister asking for community rights over the protected forests. By this time community initiatives had scaled up to a large scale compelling the state to start thinking on community's participation in forest protection. In response to these community processes the state government (Forests, Fisheries and Animal Husbandry Department) in the year 1988 brought out a resolution putting emphasis on involvement of people in protection of Reserve Forests following formulation of another government resolution in 1990 extending this provision to Protected Forests. Orissa happens to be a pioneer in the country facilitating resolutions for encouraging community's participation in protection of forest in 1988 even prior to the enactment of Joint Forest Management resolution at the national level. However, these resolutions didn’t give much in return to the communities apart from meeting their local requirements of fuelwood and small

timber free of royalty. In the following period in 1993 the state implemented the Joint Forest Management policy more on the lines of the JFM approach adopted at the national level. JFM policy was adopted as a strategy to operationalise the objectives of National Policy, 1988. The policy talked on involvement of communities in protection and regeneration of degraded forest lands comprising of Reserve as well as Protected ForestsIn lieu of duties and responsibilities delivered by the communities incentives such as 100% rights on intermediate yield(such as, leaves, fodder, grasses, firewood, NTFPs and small wood poles) and 50% rights on final felling in the form of timber & pole were envisaged in the resolution. Another resolution was passed in the year 1996 by the state government which can be termed as a more progressive one that provided for declaration of forest patches being protected by villagers as 'Village Forests' under the Orissa Forest Act. Unfortunately, the whole thing remained on pen & paper and virtually no action was taken for its implementation.

Meanwhile, more than a decade's period has passed since the enactment of JFM policy but it has failed to achieve desirable results in the state. CFM villages in Orissa are unwilling to accept this concept. This has a number of reasons. The foremost reason being that, though JFM seeks to work on the lines of joint partnership by communities and the State but in reality the practices has been totally opposite. Its implementation and operational inconsistencies have resulted in increasing the powers of Forest Department and shrinking the powers of the communities. This dis-balanced power relationship between FD and the rural communities (who are the 'defacto' protectors and managers of forests) has been raising many eye-brows on the effectiveness of JFM. JFM policy is embedded with several fundamental problems besides the operational problems. These are:

Mis-match between CFM and JFM

The present JFM system ignores the richness and diversity of community initiatives. Instead of building upon these initiatives attempt is being made to impose a standard foreign structure, which actually destroy the community initiatives. Thus there exists considerable mismatch for which reason in many places CFM groups are strongly resisting the implementation of JFM.

Dis-balanced power relationship

Under the existing JFM framework all powers and controls and management aspects are put on the hands of FD while involvement of communities has been limited only to protection. Forester has been made the Member-Secretary and Naib Sarpanch the President of forest protection committee. Micro-plan, which is an inherent component of JFM is still timber oriented and gives lip service to the livelihood issue of poor forest dependents. Again, the authority of approval of micro-plan for the resource and the sanctioning of MoU lay with the Divisional Forest Officer. Besides, there are ample of experiences of breaching of commitments by the department in terms of benefit sharing with the communities. To cite an example here, bamboo forests protected by the villagers of Paiksahi in Nayagarh district was leased out to a paper mill by FD. Though it was brought under JFM but MoU between communities and the department was not signed. The villagers put up strong resistance and were succeeded in thwarting away the move of the department (Vasundhara, 1999). The forest protecting communities are unwilling to accept the externally designed institutional arrangement and procedures that curtails their decision-making rights. Though, the people lack de-jure rights over forest but they are the defacto managers having protected and regenerating forests.

Differences in perceptions between communities and forest department

The expectation of local who have gone for forest protection and management practices being adopted in JFM do not match. The very idea of final harvest (50:50) defies the system of need based extraction which people are actually practising. In the whole course of implementation of the policy people have been shown flow of benefits in magnified terms, which they otherwise would not have thought of getting by protecting the forest.

Weak Legal standing

JFM fails to create a space for local actions. Since a long period, forest protecting groups have been advocating for tenurial rights but it fails to address this issue. Even after the passage of a decade JFM resolution, 1993 remains merely as an administrative order and not backed by changes in the related forest policies and acts.

JFM was more of a target achieving exercise. In the year 1997, the Chief Minister of Orissa in a meeting declared to bring all forest protection efforts under the fold of JFM following which there has been a sudden increase in the number of VSSs, which were formed hurriedly

by the department. According to official sources the number of VSSs in 1998 in the state counted 1473 which suddenly increased to 6685 in the following year i.e. 1999. By the end of March 2003 the total number of VSSs in the state was 6912. Most of the VSSs in reality exist only in pen and paper. During a study undertaken by Vasundhara in 2000 in Berham village of Angul district it was found that the village has been recorded under the list of VSS in FD's record but within the villagers there existed considerable confusion owing to formation of VSS. People were unaware of the fact that JFM was implemented in their village and a VSS has been formed for protection of forest. Several examples in this context exist in the state that demonstrates the undemocratic and non-participatory process of implementation of JFM.

The decision of the state government to bring in amendments in Orissa Forest Act, 1972 by enacting Orissa Forest (Amendment) Bill 2000 with regards to empowering the forest department officials with stringent laws and penal powers came as a utter surprise and was strongly criticised by the CFM groups. The forest department claimed this Bill was essential because without stringent laws and penal powers to forest department officials protection of forest is not possible and this got approved in the State legislative assembly in the year 2001. Instead of strengthening community forest management initiatives, working towards evolving broad arching principles and acts, which recognise the community's effort and ownership rights over the forest being protected and more importantly, when the state acknowledging the role of community in forest management had issued progressive resolutions in the past, such a move by the state extremely undermines community efforts and is discouraging to the protecting groups.

With the introduction of Forest Development Agency[12] (FDA) scheme a renewed drive for formation of VSS has been started by Forest Department in the state. The scheme was implemented in the state in 2002 and so far 28 FDAs has been formed in 27 undivided territorial divisions and one wildlife division. A total of Rs. 6054.41 lakh has been earmarked for Orissa out of which Rs. 1579.36 lakh has been received by the state for the year 2002-03. Till 31st March 2004, Rs. 1510 lakh has been released to FDAs.(Office of Deputy

[12] During the Tenth Five Year Plan MoE&F, GoI has introduced National Afforestation Programme (NAP) by merging four centrally sponsored afforestation schemes that are, Integrated Afforestation and Eco-Development Projects Scheme, Area Oriented Fuel wood and Fodder Projects Scheme, Conservation and Development of Non-Timber Forest Produce including Medicinal Plants Scheme and Association of Scheduled Tribes and Rural Poor in Regeneration of Degraded Forests scheme. To implement this programme FDAs are constituted all the states across the country.

Conservator of Forest, Afforestation Department, Aranya Bhawan, Bhubaneswar) Fund is directly channelised from the centre to VSS at the village level through FDA. Communities in Orissa have been actively carrying out protection and management of forest for quite a long period and for them fund has little importance. In the presence of this reality, the state trying to promote forest protection through a fund driven programme has started raising questions on its effectiveness. It seems that rather contributing to forest protection it is likely to affect adversely the wide spread community efforts and community institutions engaged in protecting and managing forest. There exists a lot of apprehensions with regards to the process and in the way entire things are carried out in the field. VSS are being formed on a target basis and even where there already exists an old committee, new JFM committees are formed. Microplan is prepared according to the proposal designed by FD and local communities hardly have any participation in the process. To cite an example here in case of Machhipada village in Nayagarh district micro-planning was just an hour-long evening meeting with 10-12 people, hardly with any representation from forest dependent sections. Again, the livelihood concerns of the most forest dependent sections are not given considerations. Adoption of selective approach in inclusion of VSS in FDA and pumping of money under the FDA scheme has resulted in tension between the communities and breaking down of the collective community spirit and informal forum/ associations of them in various parts of the State. FDA seems to be a programme initiated by the state to expand and strengthen JFM. However, it doesn't address the fundamental problems embedded within the earlier JFM resolution.

Chapter 3: Non-Timber Forest Products: Policies and Practices

Orissa state primarily has an agrarian based economy. However, agriculture as a livelihood source fails to provide food and employment to the rural people in the state. Due to frequent droughts agriculture has become a losing proposition, where output fluctuates violently from year to year. The total food grain production which was 67.82 lakh metric tonnes in 1995-96 decreased to 55.62 lakh metric tonnes during 1999-2000. There has been a drastic decline in the production of rice which forms the most important agricultural crop covering more than 70% of the cultivated areas in the State. The table-5 presented below shows the year wise production of food grains during the years1995-96 to 1999–2000 in Orissa.

Table 5: Foodgrain production in Orissa during 1995-96 to 1999-2000

Food Crop (in lakh MT)	**1995-96**	**1996-97**	**1997-98**	**1998-99**	**1999-00 (P)**
Rice	62.26	44.38	62.05	53.91	51.87
Total Cereals	63.71	46.05	63.51	55.43	53.55
Total Pulses	4.11	2.05	2.60	2.45	2.07
Total foodgrains	**67.82**	**48.10**	**66.11**	**57.88**	**55.62**

(Source: Economic Survey 2000-2001, Directorate of Economics and Statistics, Planning and Co-ordination Department, Government of Orissa)

Coming to the macro economic profile of the State, the per capita availability of cultivated land, which was 0.39 hectare in 1950 -51 has declined to 0.18 hectare in 1998-99. According to Planning Commission nearly 48.6 percent of the people of the State live below the Poverty Line. And, the per capita income of the State is the lowest among the States except for Bihar, the gap between the per capita income of the State and the National average has risen from Rs 316 in 1980-81 to Rs 648 in 1991-92 and to Rs 1292 in 1996-97 (White Paper on State Finances, Finance department, Govt. of Orissa, 1999-2000). In such situations Forest Produce and Non-Timber Forest Products (NTFPs) in particular has all along been a vital source of subsistence and livelihood particularly for the rural poor and tribals in the State. For the poorer households collection of NTFPs acquires special importance as most of them generate income and food in the leanest season.

NTFPs and Rural Livelihood

NTFPs play a crucial role in rural livelihood. It not only supports their consumption requirement but also play a crucial role in providing employment and income during the lean period especially during the time when there is/are no allied source of earning livelihood. NTFP collection is found to be a major economic activity for the households below poverty line. Again for the most disadvantaged sections like widows' and old people income from NTFP collection is very often the only significant income source. About 40-50 lakhs poor, who are landless or marginal farmers mostly belonging to Scheduled Caste and Scheduled Tribe communities depend critically on forests for subsistence and much needed cash during the lean summer months. Kendu leaf one of the most important cash income giving NTFP, it alone generates more than one crore person-days of employment during summer. (In this paper Kendu Leaves, Bamboo and Sal seeds have been dealt separately looking at the significant contribution of these products in the livelihood of the poor forest dwellers. These produces since are nationalised are controlled by separate policies of the State). It is estimated that in tribal areas more than 60 percent of the households depend on forests for incomes ranging from 15% to 50% every year.

NTFPs and State Revenue

NTFPs besides contributing to the livelihood of the rural poor have also been playing a significant role in generating the revenue of the State. There has been a persistently rise in revenues from NTFPs over the years. During 1990 annual revenue from timber was more than 200 million rupees, it came down to 50 million rupees whereas, NTFPs(including bamboo and kendu leaves) generated revenue amounting more than rupees 900 million annually, as against 250 million in 1985-86. The most important reason behind the decline in revenue from timber is due to the Supreme Court’s order in 1990 banning felling of green timber.

The following table-6 describes about the forest product wise revenue receipts and the percentage of revenue from different NTFPs to the total forest revenue in different years.

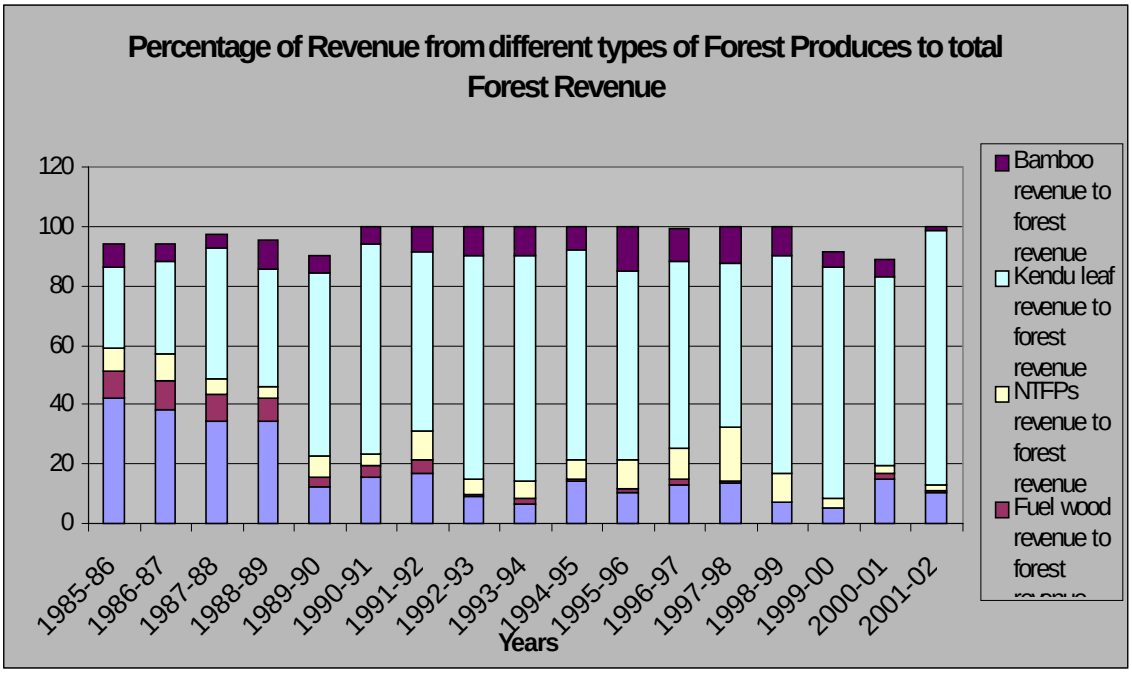
Table 6: Percentage of Revenue from NTFPs (including Sal Seed), Bamboo and Kendu leaf to total Forest Revenue

Years	Timber revenue to forest revenue	Fuel wood revenue to forest revenue	Kendu leaf revenue to forest revenue	Bamboo revenue to forest revenue	Other NTFPs revenue to forest revenue
1985-86	42.44	9.04	26.8	7.9	7.8
1986-87	38.37	9.42	31.4	5.8	9.1
1987-88	34.55	9.23	44.2	4.4	5.1
1988-89	34.25	7.78	39.9	9.1	4.0
1989-90	12.49	2.87	61.2	6.0	7.6
1990-91	15.25	4.09	70.5	5.9	4.3
1991-92	16.64	4.81	60.9	8.3	9.4
1992-93	8.79	1.22	75.3	9.6	5.1
1993-94	6.81	1.58	75.9	9.7	6.1
1994-95	14.21	0.45	70.9	7.5	6.8
1995-96	10.33	1.29	63.8	14.7	9.8
1996-97	12.89	1.88	62.5	11.4	10.8
1997-98	13.51	0.50	55.5	12.4	18.1
1998-99	7.04	0.41	73.2	9.8	9.6
1999-2000	5.23	0.23	78.1	5.1	3.0
2000-2001	15.03	1.90	63.38	6.07	2.49
2001-2002	10.31	0.46	85.10	1.66	2.47

** Col. No. 6: Excluding Kendu leaves and including value of sal seeds.*

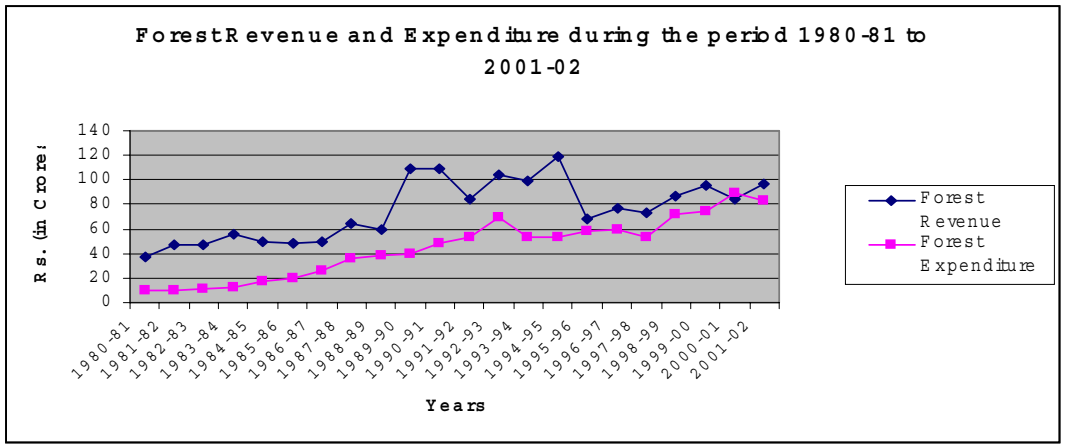
[Source: - State Development Report Orissa, NCDS]

Graph 1: Percentage of Revenue from different types of Forest Produces to total Forest Revenue



The situation in forestry sector is peculiar. Though collection and sale of NTFPs is a significant livelihood activity for the rural poor, but this livelihood option has not received sufficient attention till now. The State has always viewed forest as a source for revenue generation and the livelihood need of local forest dependent population has never been given importance. The state has not assumed the responsibility of nurturing this resource, which is clearly visible from the way the forest sector, has been treated by the state in the past. A close scrutiny of revenue and expenditure pattern during the last 20 years (from 1980-2000) shows that expenditure on forestry sector has always remained below the revenue from the same source (see graph 2). Actually, the total expenditures on the forestry sector of the State Government constitute less than 3 percent (2.91%) of the total expenditure (1997-98 to 1999-00).

Graph 2 : Forest Revenue and Expenditure during the period 1980-81 to 2001-02.



NTFP Policy Environment in the State

NTFPs which were generally described as Minor Forest Products (MFP) in the past because of little revenue value(excluding Kendu Leaves which generated huge revenue for the State) their economic value started increasing particularly after 60s with the increasing demand of the same by the industries. Accordingly, these items acquired importance by the state especially from revenue generation perspective. This very objective shaped NTFP policies, which primarily aimed towards maximisation of revenue in complete disregard to subsistence and economic dependence of local people and their ethnic/natural rights. The potential of NTFPs to give economic returns to the poor of the State remains grossly under-utilised. These basic tenets guiding the NTFP policies had not changed even after one and half a decade of the National Forest Policy, 1988 that emphasise on tribals and local needs having the first charge over forests.

Non-nationalized NTFPs: Policies and Impacts

In Orissa, apart from three forest products i.e., Kendu leaf, Bamboo and Sal seed (declared as Nationalised NTFPs), trading rights for almost all-marketable NTFPs were given away as monopoly leases to private parties, government agencies and joint corporations for a substantial period. Infact, the State had, through an administrative order, brought under its control the marketable NTFPs through monopoly leases. Till mid-eighties such leases were granted generally to the government organisations namely [13]Tribal Development Cooperative

[13] TDCC was established in the year 1973 to act as an apex organisation for the cooperative societies of the state working in tribal sub plan areas.

Corporation (TDCC) and [14]Orissa Forest Development Corporation(OFDC) who procured forest products by appointing agents at the village level. It was only after 1985 when private companies and industries entered into NTFP market and till 2000 played a dominant role. One such private party in the garb of a Joint Sector Company named [15]Utkal Forest Products Ltd. (UFPL) was given long-term lease for 29 items (initially had obtained leases for 32 items) for ten years in 1989. The statewide lease of 29 items to UFPL apparently was given to increase the royalty to the State Government and that processing units for these NTFPs would be set up by the leaseholder generating employment locally.

The irony is that after years of thriving of state sanctioned monopoly trade in non-nationalised NTFPs, it was "discovered" almost a decade later that this monopoly trade was "illegal". To correct this illegal practice, there were instructions from the State Ministry to the Principal Chief Conservator of Forests (PCCF) on the 5th of March 1997 specifying that the monopoly leases for the non-nationalised NTFPs are not "Monopolies" and that these do not constrain the Government from granting similar leases to other agencies also in respect of the same lease area. However the "monopoly lease holders' continued to operate as the only "authorised" traders in the NTFP trade. Despite of the fact that the Orissa Forest Produce (Control of Trade) Act, 1981 and Orissa Forest Produce (Control of Trade) Rules, 1983 lay emphasis on encouraging the appointment of Tribal/ Labour Co-operative/ Gram Panchayats as procurement agents for NTFPs; involvement of grassroots level Co-operatives and Gram Panchayat in NTFP trade was completely ruled out by giving long-term State wide/Forest Division wise monopoly leases. Thus, the State controlled all the threads of NTFP production process. The control of the state even extended to the designated forest products growing on private lands and non-forest government lands.

Impact of State and Private Monopolies

(i) Low returns to NTFP gatherers and the State

Private monopolies not only reduced the income of the primary collectors but also adversely affected the revenue to the government. The primary gatherers received low return on their

[14] The state formed Orissa Forest Corporation Ltd. in the year 1962 to deal with NTFP trading which was renamed as Orissa Forest Development Corporation Ltd. in 1990 following the mergence of two more companies with it.

[15] Utkal Forest Products Ltd. was established by a private trader named J.P. Lath in joint venture with a state owned company Industrial Promotion and Investment Corporation of Orissa Limited (IPICOL).

labour. According to a study by IFAD 2000, it was found that NTFP collectors in Kandhmal district in the year 1997-98 received prices of NTFPs varying between 1/4th to 3/4th of the minimum price fixed by government.

Further the State experienced low royalties from non-nationalised forest products. Two important factors attribute to this, that are, (i) low collections adversely affecting incomes to rural people and (ii) under-reporting of collections to avoid payment of royalty. This is demonstrated by a comparison of Sal seed procurement in the Bolangir district over a period of 6 years from 1992 to 1997. During the first three years, 1992 to 1994, the collection was carried out by the OFDC while the collection from 1995 to 1997 was carried out by a private monopolistic purchaser - Priti Oil Mills based at Rampali in Rengali block of Sambalpur District. The collection figures are provided in the following table - 7.

Table 7: Collection of Sal Seeds (in Metric Tonne) in Balangir district

Year	Target	Collection	Royalty	Primary Collectors' Income (@ Rs 1.75 per kg)
1992		227	471,996	397,112
1993		176	(-22,882)	308,028
1994		243	36,444	425,187
Total		**646**	**485,558**	**1,130,327**
1995[16]	250	25	13,750	43,750
1996	250	69	15,941	120,444
1997[17]	120	40	18,000	69,501
Total		**134**	**47,691**	**233,695**
Loss due to Privatisation		512	437,867	896,632
Avg. Annual Loss		171	145,956	298,877

[16] Royalty was charged at Rs 100 per m.t. of collection. Penalty was charged @ Rs 50 per the shortfall of collections from the target fixed by the Government.

[17] From this year onwards royalty is being charged @ Rs 150 per MT on the whole of the target amount irrespective of the quantum of actual collections.

As can be seen from the table above that privatisation did reduce the income of the primary collectors by Rs 3 lakhs per annum. At the same time it did not increase the royalty of the state government either. In terms of reduction in royalty the government lost an estimated average amount of about 1.5 lakh rupees per annum for a three-year period. It also happened that due to failure of non-collection by the monopoly agents the primary gatherers in sal seed producing areas gave up collection of the produce. The government has attempted to solve the problem of low royalties in sal seeds by charging a penalty of Rs 50 per MT of shortfall from the targeted amount in 1994-95 and charging royalty on the entire target amount from 1996. But it has done nothing to see to it that the actual collections are enhanced.

(ii) Inability of primary gatherers to store, transport, processing and marketing

Restrictions imposed by the policy on storage, value-addition and sell in the open market, deprived the collectors of both income and meaningful employment, especially in the lean months of summer. The laws related to restriction on the amount of NTFP that can be stored by an individual varied from item to item. Mahua comes under the purview of the Excise laws and produces like KL and bamboo also had the restrictions that applied. The law also required registration of growers of specified forest products whose production was in excess of the specified quantity. Similarly, for transporting NTFPs, transit permits issued by the forest department were required for most products for their movements out of the state.

(iii) Because of low prices offered by the monopoly agents the primary collectors in a number of areas stopped collection of NTFPs finding it uneconomic, thus adversely affecting the livelihood of the primary collectors besides resulting into loss of income to the State. Even the government organisations like TDCC, in spite of having monopoly procurements rights over many products, had neither been able to serve their objective of welfare of tribal people and nor had they been able to provide revenue to the State Exchequer.

(iv) Monopoly rights led to over exploitation of products as had happened in case of the bark of tree, Oroxylon indicum which is used for making incense sticks. In the state some traders were given lease to collect the bark but often the monopoly leaseholders tempted by quick returns cut the entire trees thus causing harm to the forest.

(v) Despite efforts to check illegal trade and smuggling of forest products by control in trade, it still continued with consequent loss to the state exchequer. Higher prices of NTFPs like

tamarind, mahua flower, kendu leaves, char seed etc. in the neighbouring states resulted into flow of these products to outside states through illegal channels.

Policy Change

It is ironic that while crores of rupees are spent for tribal development and rural development programmes; for a few crores of royalty to the State exchequer the right to livelihood of a large forest dependent population is gravely compromised. The enormous possibilities of augmentation of income of the poorest remain untapped due to faulty policies regulating NTFP trade and restricting access of poor to forest products and their markets.

Since last one decade the NTFP policy environment in the State has undergone several changes which were expected to confer greater access, rights and control over NTFPs to communities. However, due to various reasons these new policies/resolutions have failed to bring in desired results in this perspective. The following section highlights the policy changes alongwith the reasons of failure of the same.

NTFP AND JOINT FOREST MANAGEMENT

Government of Orissa (GoO) has been encouraging villagers to protect Reserve Forests from 1988. In 1993 GoO issued a resolution to facilitate Joint Forest Management. As per this resolution, VSS (Van Samrakshan Samiti) with whom the Forest Department enters into a Joint Forest Management arrangement is supposed to get 100% of all intermediate produce from the jointly managed forests. This implies all rights over NTFP (intermediate produce) of the VSS. However this has no meaning, since regulations over NTFP trade remain the same even in JFM areas and the ownership rights over NTFP do not get transferred to or even shared with the co-managers.

Surprisingly, the perspective relating to the primary collectors/ producers of NTFP as mere labor by the State/ Forest Department does not change even when local communities get accepted as co-managers of forestlands under Joint Forest Management. Thus, instead of the promised 100% (of the value) of the intermediate produce**,** members of VSS only get wages for collecting NTFPs from forestlands of which they are supposed to be managers.

NTFP AND THE EXTENSION OF PANCHAYATI RAJ TO SCHEDULED AREAS (AMENDMENT) ACT:

Extension of Panchayati Raj to Scheduled Areas Act gives ownership rights over Minor Forest Produce to the Gram Sabhas in the scheduled areas. A committee set up to look into the implications of transfer of ownership rights to Gram Sabha in Scheduled Areas recommends that such rights (more in usufructory rights form) should not be restricted to Scheduled Areas but should be extended to all areas.

Violation of Constitution: Gram Sabhas denied with NTFP rights

Long-term monopoly leases for NTFP procurement and trading were given to some private traders in some of the Forest Divisions by the State government vide a government order issued on 6th January 2000. In complete disregard to the Constitutional provisions of Extension of Panchayati Raj to Scheduled Areas Act, 1996 which gives ownership rights over Minor Forest Products to Gram Sabha and the recommendations of the special committee constituted by the state of handing over ownership rights over most MFPs to villagers the State gave monopoly trade rights to the private parties.

Monopoly leases for NTFP procurement depress NTFP prices and result in low incomes for the gatherers. For this reason there has been lot of criticism of the monopoly leases in response to which the state had cancelled the earlier monopoly lease to UFPL. In November 1999 a government order to various DFOs has called for encouraging various parties to come forward for buying NTFPs and for replacing the lease system. Ruling over all these, barely after a couple of months, the government came out with the decision to readopt the monopoly lease system.

Following the central act, the state has enacted Orissa Act in 1997 for the same. However, the Orissa Act has tried to circumscribe the Constitutional Provisions of the Central Act by adding a clause `consistent with relevant laws in force' while incorporating the constitutional provision concerning the competence of the Gram Sabha to manage community resources and dispute resolution as per the customs and traditions of the people. Thus, tribals can have ownership rights over Minor Forest Produce, but only if the relevant laws in force allow that. This is clear violation of the constitutional provision of the central act since in case of any inconsistency the relevant laws have to be changed instead of negating the rights granted to Gram Sabha as per the Central and State Acts in this regard. Instead of clear rights to Gram Sabha, space has been kept for involvement of higher order Panchayati Raj institutions by mentioning assignment of powers amongst the Gram Sabha and the Panchayat at the appropriate level.

In practice NTFP trade modalities had not changed in scheduled areas even after this act; and despite Gram Sabhas being the constitutional owners of NTFPs, private and government monopolies outraged the rights of tribals even in the Schedule V areas. In this regard there

also has been a letter from the Forest Secretary, GoI to the State urging the States to implement the State Act.

NTFP (Procurement and Trade) Policy, March 2000

Policy change for NTFPs in the direction of allowing free trade of forest produce, encouraging local level processing to create employment and incomes at local level formed the basic characteristics of the new NTFP resolution issued on 31st March 2000. Change in National Forest Policy, the enactment of PESA and criticism from communities and various groups, organisations working in this area acted as driving force behind the formulation of the new NTFP resolution. This resolution was encouraging and was considered as a revolutionary step on NTFP front in the sense that for the first time the state emphasised on the welfare of NTFP gatherers as opposed to the erstwhile revenue orientation.

Broad Policy Contours

- NTFP - an important source of livelihood of tribals and the rural poor.
- Ensuring sustainability of forests and long-term sustainability of the NTFP based livelihood.

Thus, the positive aspects of the resolution were:

- Demonstrating a strong will to make a shift in the objective of NTFP management from revenue maximisation to that of sustainable rural livelihoods.

- Recognising the necessity of transferring ownership rights over minor Forest Produces (MFP) from the State to the Gram Sabhas/ Gram Panchayat.

- Deciding to do away with monopoly trading rights, which used to benefit only a small group of traders at a huge cost to millions of tribals and dalits.

This policy brought the Gram Panchayats (local governance institutions) to the centre stage and procurement and trading rights of NTFPs (excluding three nationalised forest products) was transferred to Gram Panchayats from the hands of the monopoly leaseholders. It divides forest products into two broad categories – Minor Forest Products (MFPs) and Non-Timber Forest Products (NTFPs). The MFP category includes 68 items; purchase, procurement and

trading of which will be under the control of Gram Panchayats both in Scheduled and Non-Scheduled areas. Any individual/trader/organisation/group interested to procure MFPs will need to register itself with the concerned Gram Panchayat under which jurisdiction the area falls by paying a registration fee of rupees one hundred. However, the government has the power to modify the list of MFPs from time to time. Further, the resolution debars the Panchayats from exercising such rights over MFPs in Reserve Forests, Wildlife Sanctuaries and National Parks. The second category i.e. NTFPs is again divided into two groups including Specified Forest Products (SFPs), Lease barred NTFPs and certain NTFP items directly controlled by Divisional Forest Officers (DFOs). SFPs previously known as Nationalised Forest Products consist of three items namely, Kendu Leaves, Sal Seeds and Bamboo, lay under the direct control of the state government. NTFPs like sal leaves, gums and resins of different trees, Khaira and Catechu, barks of different trees, climbers and roots of various species having medicinal value and other uses have been put under lease barred items category. Since extraction of these products for commercial purpose is all likely to have adverse impact on the sustainability of the particular species and forest, so these has been kept out of the purview of trading. However, Forest Department may any time allow collection of any of these item(s) in particular localities after making a thorough assessment of silvicultural availability and enforcement of appropriate collection procedure but, collection will be done directly either by the field organisation of Forest department or a government undertaking body.

The resolution highlighted the State's intention, which was to empower NTFP collectors to earn better livelihood from forest products. However, the reality was that it was not just the issue of livelihood of poor forest dwellers which guided the decisions relating to placing of forests, forest products and livelihood in hands of Gram Panchayats but, in fact, even the State has been losing crores of revenue through these monopoly lease arrangements. The Govt had been discussing and debating on the issue for several years and in 1996 Government of India enacted a central act for Extension of Panchayati -raj to Scheduled Areas which provided ownership rights over minor forest produces to Gram Sabha in scheduled areas. It was after four years that the Govt. of Orissa came out with such a progressive policy. In the beginning the resolution handed over the rights of procurement and trading over 60 NTFP items to Gram Panchayats. Interestingly, most valuable NTFPs has been kept out of the purview of Gram Panchayat and only products that are of low economic value were handed over to Panchayats. It may be noted here that the contribution of the freed

NTFPs account to only 5 % of the total revenue earned by the state from forest products. Again, of the items handed over to Panchayats people collect only 5 to 6 products on a significant scale. Whereas the state still retains control over the major economically important forest products. There was lot of criticism against this from various corners and the State was pressurised to liberalise eight more tree based oil seeds in a later period, thus in total 68 NTFPs came under the control of GPs. Though the Chief Minister had given assurance to liberalise the trading of seven tree borne oil seeds in June 2000 but, it took three months to legalise it and finally on 23rd August 2000 an order (no. 5F-C-62/2000, 13285/F&E) was issued by the Forest & Environment Department of the State in this regard. Subsequently the Panchayati Raj Department through its order no. 8131 dated May 26, 2000 prescribed that the Government transferred powers relating to NTFP procurement and trade to the GPs. Also, the order mentioned in details about the process of registration and application with GPs and obtaining of permission letter for purchasing NTFPs.

NTFP Pricing: *Policy and Practices*

An important policy change in the matters of MFP trade took place on July 9, 2001 when the state level price fixation committee for MFPs/NTFPs and Specified Agricultural Produces was dissolved in the State following the recommendations of the [18]Review Committee. Later on, the authority to fix up prices for NTFPs was vested at the District level with the District Collectors and a resolution in this regard was issued on October 12, 2001. The state level price fixation committee had come into origin in 1993 under the Welfare Department. Following the formulation of new NTFP policy in 2000 the committee was reconstituted under ST and SC Development Department of the State. The decentralisation of power with regard to price fixation from the state level to district level was an intermediate arrangement carried out as vesting the authority of fixing up minimum procurement prices with Panchayats required new rules under the Orissa Gram Panchayat Act as well as amendments in the existing Orissa (Timber and other Forest Produce) Transit Rules, 1980. As per the new price fixation resolution issued in October 2001, the prices of NTFPs shall be fixed up for a particular season by the District Collector in consultation with the Officials of other departments such as DFO (Territorial), the District Panchayat Officer, the District Welfare

[18] In order to review the implementation of the new policy and to suggest measures to remove all bottlenecks in its smooth and effective implementation to enable the tribals to derive full benefit from it the State had set up a three member committee of Secretaries.

Officer, the local representative of the Tribal Development Cooperative Corporation (TDCC), the local representative of the Tribal Cooperative Marketing Development Federation of India Ltd.(TRIFED), the local representatives of the Forest Development Corporation(OFDC) and a local representative of the Women and Child Development Department where ever present taking into the account the overall price and production trends in the Country. After one year the state government on 14th November 2002 formulated the Orissa Gram Panchayat (Minor Forest Produce Administration) Rules, 2002. These rules were published through an official notification on 15th November 2002 (No. 2091, Orissa Gazette) from the Panchayati Raj Department of the State. According to Orissa Gram Panchayat (MFP Administration) Rules 2002 henceforth the price fixation for 68 free items shall be done at the Panchayat Samiti level. The prices so fixed by the Panchayat Samiti shall be discussed and ratified by the Gram Sabha. It also gives power to the Panchayats to modify the minimum procurement prices for NTFPs looking at the local need. If in any case the Panchayat Samiti fails to fix up the MPP for MFPs the responsibility lay with the District Collector for fixing up the prices by convening a special meeting of the Panchayat Samiti.

Fixation of Minimum Procurement Price

So far the usual practice in the State has been that every year the price list (Minimum Procurement Price) fixed up by the government for different NTFPs is published after the commencement of NTFP procurement (the NTFP season in a year begins from October and continues till September of the following year). In the year 2000-01 when the progressive NTFP policy was enacted it was expected that atleast in this year the State would come out with the MPP list in due time with a view to help the Panchayats in regulating NTFP trading. However, there came no change in the system and contrary to the expectations the MPP list was published in the month of November. By the time of publication of price list procurement of MFPs by the traders had already begun and due to non-fixation of price for NTFPs the Panchayats has to face many difficulties. The minimum procurement price for most products except three items i.e., Siali leaves and leafplates, Sal leaf plates and Sabai grass remained unchanged in the year 2000-01. It may be recalled here that in 1999-2000 the government had drastically reduced the prices of tree borne oil-seeds such as Karanj, Sal seed, Neem seed etc. and Mahua flower almost to half the price fixed in the previous year**.** This invited lot of criticism from the forest produce collectors, despite of which no change in

the minimum procurement price of these products were made in the following year (2000-01).

Even in the following year 2001-02 when price fixation was entrusted at the district level no significant change could be seen in this regard. Almost in all districts price fixation was delayed. There was no representation of NTFP gatherers in the price fixation committee. In certain districts the prices for MFPs were fixed up in an arbitrary fashion without taking into consideration the ground realities. It also so happened that prices were fixed looking into the interest of buyers and the state's trading agencies and not the primary collectors.

Price Fixation Going On Without Any Enabling Mechanisms (Vasundhara, 2003**)**

Following the price fixation resolution in October 2001, a meeting was convened by the Collector of Balangir District on 7th November 2001 to fix up minimum procurement prices for 68 MFPs for the year 2001-02. The meeting was attended by the government officials of different departments and representatives from two local NGOs. The minimum procurement price list was fixed up in the absence of Collector who left the meeting after giving his presiding note. Like the previous years, prices for the current year was fixed on the basis of MPP of the last three years and the prices at which TDCC was willing to purchase the products. Thus, the price in certain items was reduced while in some other items it was enhanced. The Collector sent the price list fixed up in the meeting for the approval of Revenue Divisional Commissioner without detailed discussion on it with the participants. More surprisingly, the District Federation Forum (DFF) which consists of representation from forest protecting groups and NTFP gatherers from different parts of the district had no representation in the district level price fixation committee. The federation in the past had played an active role in price fixation by becoming a member of district price fixation committee during the period 1995-97, when the district level price fixation was in operation.

Ultimately, in the year 2002 (14th November 2002) the Panchayat Samities were entrusted with the authority of price fixation. There is no doubt that need for this was felt essentially at different levels for empowering Panchayats in real sense but, transfering the responsibility without preparing the Panchayat Samities for the same has resulted into following situation in the ground. Since there is official order from the District Collector to the Panchayat Samities for price list, the prices are fixed hurriedly just to fulfil the formality. In many cases it has been seen that instead of preparing a fresh price list the old price list fixed by the District level price fixation Committee is sent by the Panchayat Samiti to the Collector. Even sharing

of the price list with Gram Sabha is not being done by the Panchayat Samities. At present, the situation in most of the areas is that people are unaware about the new role of Panchayat Samities and the existence of such a system developed by the State.

The ground realities……

It goes without saying that the new policy had raised infinite hopes and expectations among the NTFP gatherers. One of the stated objectives of the new NTFP policy was to help the primary gatherers to earn better prices for their collections by creating a competitive environment in the NTFP market. With the enactment of the policy it was expected that the NTFP market situation would alter in the interest of the primary gatherers. However, if looked deep into the situation it can be seen that there has been no remarkable change in the situation related to NTFP market and the incomes of NTFP gatherers in the following years. The apprehensions, which a number of people working in this sector held with regards to the situation after the policy have come true. The important highlights of the ground situation can be summarised as below:

1. Awareness at Gram Panchayat level regarding the powers and functions of GP in regulating procurement and marketing of NTFP trade has not been created adequately and so the PRI representatives are ignorant about the new NTFP policy and the powers conferred to them with regards to NTFP procurement and marketing. People too, are unaware about these developments in NTFP sector in the state.

2. At the Panchayat level traders are coming forward to purchase selected NTFPs, Mahua flower, Tamarind, Aonla, Broomstick, Char, Tola (Mahua seed) etc., which have a ready demand in the market. In many areas there exist a number of NTFPs, which have good potentiality, but there is no trader to purchase.

3. In certain Panchayats registration system has been used to the advantage of the buyers like the registered buyers are not buying and at the same time not allowing others to enter the market. This is creating a glut in the market and forcing the price downward. Then they are buying at the lower price.

4. The actual prices received by the collectors for most MFPs in village haat (except a few like Hill broom, Siali leaves and leafplates, Sal leafplates, Mahua flower, Aonla, Sikakai) remained below the Minimum Procurement Price fixed by the government. Not only the traders but even the government agencies flouted the government policy. During the year 2001-02 when price fixation was done at the district level, the Tribal Development Cooperative Corporation (TDCC), a state government promoted organisation declared price for certain items like hill broom, harida and green aonla. lower than the Minimum Procurement Price fixed by the district level price fixation committee as per the state government's NTFP policy (see Table - 8). The irony is that this very organisation was created by the State to protect the interest of the tribal whom largely depended on forest products. In this context, TDCC taking such a step clearly indicates that for it interest of the primary gatherers has the least priority and breached the objectives with which it was set up.

Table 8: Minimum Procurement Price fixed up for certain MFPs by TDCC and at the District level for the period 2001-2002

MFP	MPP fixed at the District level during the year 2001-02 (in Rs.)				MPP fixed by TDCC for the year 2001-02 (in Rs.)
	Koraput	Bolangir	Kalahandi	Rayagada	
Thorn Broom	5.00	3.00	3.00	3.25	3.00
Harida	4.50	4.50	4.50	4.50	3.00
Green Aonla	4.00	3.00	3.00	3.25	2.50

5. One of the major intentions of the policy was that the new arrangements will create competition in the market and will help the primary producers to get a fair price. But, what is seen that at the village level multiple buyers system has failed to come up. Except for certain items like hill-brooms, tamarind, aonla (dry and deseeded) and bai-bidinga in which the numbers of traders have increased, but for maximum items buyers are few and part of the same old network. To cite an example, in Koraput district during the year 2002-03, 475 traders had registered with the Panchayat for procurement of tamarind, 132 traders had registered for mahua flower, 115 traders for broom, 23 traders for Siali leaf, 3 for Aonla whereas there were only 21 traders for procurement of other NTFPs.(Source: District Gram Panchayat Office, Koraput)

6. A serious concern in this regard is that the policy was declared but no enabling mechanisms were worked out. Thus, in the absence of enabling mechanisms the Panchayats have not succeeded in regulating the market. The unethical practices in terms of advance trading/distress selling, malpractices in weighing method continue. The market still continues to be a buyer's market.

7. In the pretext of transferring the responsibility to Gram Panchayat, the Forest Department tries to remain callous and not performing the role it is expected to play. The Forest Department exhibits severe callousness in keeping track on procurement and trading of different NTFPs.

Amidst all these disadvantages there has been one positive impact of this policy in the ground. The policy allows the communities to participate in processing and trading of MFPs directly (the NTFP policy which functioned prior to March 2000 restricted communities from performing these activities). Taking the advantage of this in many places NGOs helped people to come together to take up NTFP business collectively. Thus, over the period people's collective in different forms

Enhancement in incomes of NTFP Gatherers through Collective efforts

This illustration is based on the experiences of collective trading of NTFPs undertaken by women NTFP gatherers in Kundeidiha, Tamparkela and Jarda Panchayats of Gurundia Block in Sundergarh District during post NTFP Policy, 2000 period.

Gurundia is considered to be one of the most backward block of Sundergarh district, Schedule V area in the state. 79% of the total population of the area constitute STs and 5% SCs. The occupational pattern of people is oriented towards agriculture and forest. Due to abundance of forest, livelihood dependence particularly of poor, marginalized sections on forest is high. 30-40 percent of annual income of these people comes from NTFPs only.

Despite of abundance of forest resources people live in abject poverty. One of the important cause is improper utislisation of the resource and poor prices of the forest products. Due to monopoly system the collectors were compelled to sale their things at the prices decided by the state agents and the private traders. The NTFP policy, 2000 encouraged free trade of MFPs creating space for local communities to participate directly in NTFP trading. Collection of NTFPs being under the domain of women they took greater interest and in the year 2002 three primary gatherer;s cooperative consisting of 250 membership from 14 villages in Kundeidiha, Tamparkela and Jarda Panchayats emerged. In the year 2003 the cooperatives started business with mahua flower and 14 qtls in total was procured which was sold out to a local trader.

This extra ordinary initiative of local women yielded overwhelming results. Due to the direct involvement of women cooperatives in marketing they earned profit of rupees thirty thousand (after meeting all the operational expenses) besides, giving extra income to the pluckers. The pluckers received higher price at the rate of Rs. 6.50 per kg than the existing market price (the average market price for Mahua flower during the period was Rs. 4.00 per kg) ultimately leading to enhancement of household income varying between Rs. 200-Rs. 1000.

(Mahila Samiti / SHG / Federation of Forest Protecting communities / NTFP gatherer's Cooperative) have come forward to take up collective procurement, processing and marketing of NTFPs. These collective interventions can be seen scattered in different parts of the State like Mayurbhanj, Keonjhar, Ganjam, Koraput, Rayagada, Sambalpur, Gajapati, Bolangir, Sundergarh districts etc**.,** have resulted into enhanced prices for NTFPs to the gatherers.

Specific concerns relating to the policy

Changing a policy merely doesn't mean that the interest of people will necessarily be met if appropriate actions are not taken at the ground level. Exactly this has what happened in the case of the NTFP Policy, March 2000. The first and foremost thing is that so far NTFP was a controlled trade regime. The previous policie(s) on one hand helped the growth of monopoly elements and on the other hand weakened the bargaining strengths and skill of communities. Given this backdrop switch over to the present free trade regime without working towards enhancement of capabilities of Panchayats and the communities at large to regulate and monitor NTFP trade, identifying and tapping markets for NTFPs, price information, price fixation, capital arrangement etc. has failed to empower the people's institution to use the policy for the interests of the primary gatherers.

The new policy doesn't address the structural problems relating to the market (like how to break the dominance of the wholesale traders and their linkages with the village level market). NTFP trade being highly unstructured, issues like creation of proper marketing yard, storage space and minimum processing facilities at the local level should have been the priority areas. However, these are not attended in the policy. The policy relies on the role of Panchayat in the market. The presumptions being that Panchayats are free from local political interests. But in practice, they are not so.

Another contentious issue relates to NTFP price fixation. At present the responsibility of price fixation lay with the Panchayat Samities. In this regard the State issued a resolution declaring its intention to empower the Panchayats in regulating and monitoring NTFP trade. However, in absence of ensuring mechanism, merely fixing up MPP shall to what extent help the primary collectors still remains an unanswered question. In a State like Orissa where NTFPs contribute between 20-40% and sometimes even more of the total income to the rural poor especially the forest dwellers mechanism of price fixation and ensuring the fixed price is a crucial factor for them. But the present NTFP policy neither talks about the price

fixation mechanism or the ensuring mechanisms. Further, the NTFP market is highly unstructured and the power equation is biased towards the traders. In such a situation the existing power of the Panchayats (deregistration of unscrupulous traders) can hardly ensure fair price to the gatherers. To face these situations Minimum Support Price system seems to be the best safety network for the primary gatherers in NTFP trade. The presence of MSP is expected to benefit the primary gatherers gain remunerative prices for MFPs under two critical situations, one when the market price for the products go down, and secondly, when there is no trader to purchase their products. The need of a policy for introducing MSP in NTFP trade in the State has become more important looking at the current crop failure of various economically important NTFPs. The low production levels of a number of important NTFPs in the current year have become a threat to the survival of poor forest dwellers.

The following table - 9 presents figures of collection of two important items i.e., Mahua flower and Sal seed in five cooperatives of women NTFP collectors stretched out in ten villages in Angul and Deogarh districts.

Table 9: Collection figures of Mahua flower and Sal Seed by 5 Women NTFP Gatherer's Cooperatives during the period 2003-04 to 2004-05

Sl. No	Name of the Co-operative	Village / GP / District	Total Member	Mahua Flower (in Kg)		Sal Seed (in Kg)	
				2003-04	2004-05	2003-04	2004-05
1	Banalaxmi Prathamika Mahila Samabaya Limited, Sanda	Raghunathpur / Injidi/ Angul	13	2950	2200	320	50
		Sanda/Injidi/ Angul	52	8400	6586	1910	300
		Mandhata/Injidi/ Angul	11	1840	2150	633	140
2	Banadurga Prathamika Mahila Samabaya Limited, Kunjam	Kunjam/ Kunjam/ Angul	36	6360	4553	NA	NA

3	Bangiri Prathamika Mahila Samabaya Limited	Siari Malia/Munduri Beda/Angul	52	5580	5543	480	125
4	Banarani Prathamika Mahila Samabaya Limited	Gursung/Gursung/Deogarh	52	6047	3460	4805	0
5	Banachulia Prathamika Mahila Samabaya Limited	Baghamunda/ Kandhal/ Deogarh	49	10600	5726	NA	NA
6	Banabandhu Prathamika Mahila Samabaya Limited	Remal/ Gurusung/ Deogarh	24	4400	5930	4550	0
7	Banaphula Prathamika Mahila Samabaya Limited	Nuamunda/: Saruali/ Deogarh	36	4840	6330	2500	450
8	Banamalati Prathamika Mahila Samabaya Limited	Outala/ Sarualli/ Deogarh	19	3500	3750	4308	0
	TOTAL		344	**54517**	46228	**19506**	1065

The above table reveals that this year the production of Mahua flower and Sal seed has declined in comparison to the previous year and in case of the second item the production has drastically gone down. Similar situation is being observed in other NTFP regions across the State. In another instance in Keonjhar district information collected from nine families from three villages namely, Bimala, Kalima and Purushottampur showed while the total collection of mahua flower by the nine families during last year was 1730 kg, this year the collection was 1114 kg due to poor production. According to the Managing Director of TDCC, during

the current year the organisation could procure only 40 per cent of Sal seed in comparison to the last year due to low flowering. Thus, what it seems in the present year that in absence of policy in the state to cope with this situation, poor production of major MFPs would no doubt create an adverse impact on the lives and livelihood of the forest dependent communities.

Taking into account 15 major MFPs (as mentioned in the Table - 10), the average of last few years show that together these items have been creating on an average 157.6 lakh person of employment per annum at a rate of Rs. 16.7 per person which is much lower than the government declared minimum wages which is Rs. 52.50 per day. There is no doubt that introduction of Minimum Support Price(MSP) in NTFP trade can lead to additional income and extra employment days to the NTFP gatherers. Considering the situation where the poor tribals become easy victims of debt trap lead by the traders for meager sum, this extra income would help the tribals to break the debt trap and protect themselves from exploitation by the traders. In the table below estimation has been made which describes about the fund the State requires to allocate in its budget for MSP and the additional income, which would come to the tribal gatherers through this process.

Table 10: Realistic implications of Minimum Support price in important MFPs

MFP	Estimated Collection (in Qtl.)	Market intervention (%)	Minimum Support price (Rs./Qtl)	Price Differential (Rs./Qtl)	Amount of Differential in total operation	Value of Procurement (Rs. in Lakh)	Total Value of Procurement
Mahua flower	600000	20	500	100	240	600	3000
Mahua seed	150000	30	750	150	81	337.50	1125
Neem seed	22500	15	550	110	4.83	18.56	123.80
Sal seed	600000	20	350	70	109.20	420	2100
Sal leaves	150000	10	300	60	18	45	450
Tamarind	30000	20	600	120	10.80	36	180
Hill broom	7500	10	900	180	2.70	6.75	67.50
Chakunda seed	15000	10	600	120	2.16	9	90
Char seed	30000	10	5000	1000	39	150	1500
Karanj seed	11250	30	425	85	3.44	14.34	47.8
Mango kernel	52500	30	300	60	11.64	47.25	157.50
Kusum seed	15000	30	550	110	5.94	24.75	82.50
Myrobala	30000	30	400	80	10.80	36	120

Nux vomica	30000	20	400	80	6.24	24	120
Siali leaves	3750	10	700	140	1.05	2.63	26.30
	1747500				**546.50**	**1771.78**	**9190.30**

(Source: Sarangi R.K., Need for a price Support Operation in NTFP, 2002)

The estimation described here is based in certain assumptions suchas,

(i) If the fixation of MSP follows a scientific method and the agencies engaged in Minimum Support Price operation are managed on professional lines then intervening in the market upto a level of 15-30% of the quantity of total procurement shall be enough to maintain the MSP.

(ii) MSP has been assumed as is given in the table.

(iii) The average price differential is between MSP and the actual price calculated based on the last 3-4 years information. The actual situation in this regard may get better in future.

As can be seen from the above table that by providing for Rs. 5.47 crores in the State budget on account of possible losses, the government would be ensuring a return of Rs. 91.90 crores as value of the NTFPs collected and shall generate 259 lakh person days of employment. Thus, by this operation an extra income of Rs. 68.71 crores and extra employment of 102 lakh person days per annum can be generated. Considering that 20 lakh families are dependent on NTFP livelihood in the state if this extra income is directly distributed to them it is expected that each family would get an enhanced income of Rs. 3435.50 which is highly significant looking at their poor annual income which comes around Rs. 8000-10000.

Apart from these, the NTFP policy is found to have been ridden with several other flaws, ambiguities, confusions that invited criticism at different levels, such as:

- This policy transfers the ownership rights and authority to control/regulate purchase, procurement and trading of MFPs to Gram Panchayat/Gram Sabha in Scheduled Areas, which was earlier vested with the Forest Department however, the GPs/GSs has got no ownership over the MFPs produced in the Reserved Forests, Sanctuaries and National Parks. This is clear violation of the Constitutional Provision of the Central Act since in case of any inconsistency the relevant laws have to be changed instead of negating the

rights granted to Gram Sabha as per the Central and State Acts in this regard. Further, in non-scheduled areas the GPs/GSs have only the rights to regulate the trade of the MFPs.

- Instead of giving clear rights to Gram Sabha, space has been kept for involvement of higher order Panchayati Raj institutions, by mentioning assignment of powers amongst the Gram Sabha and the Panchayat at the appropriate level.

- The resolution categorises forest produces/MFPs into three groups i.e. Specified Forest produces (KL, Bamboo and Sal seeds), NTFPs (this includes 60 items along with seven tree based oilseeds) and MFPs or leased barred items (basically includes various barks, tubers and medicinal herbs). In a sense the State presents for the first time a definition of MFP and also simultaneously has attempted the NTFP concept to its fold. This classification has no scientific validity. More importantly, implicit to this classification is the revenue interest of the state. This gets clear if one looks at the items of forest produces included in the list of MFPs, which are of low economic commercial value and are "handed-over" to Panchayats. Of these only 5 to 6 the people collect items on a significant scale. On the other hand the State still preserves its right over the items like, Kendu leaf, Bamboo and Sal seeds which provide significant revenue to its coffer. Moreover, the definition has been kept open; to include products as the State might decide from time to time in future. Thus, as the commercial value of other products currently in the MFP list increase, the govt. can bring it under its fold.

- Gram Sabhas have been denied rights over NTFPs from reserve forest areas. Again customary rights of natural inhabitants of areas coming under Wild Life Sanctuaries and National Parks have been totally ignored. The resolution mentions that Gram Panchayats would not be able to lease out NTFPs from Reserve Forest (RF), Protected Forest, but does not specify if the Forest Department would have the rights to allocate procurement rights for NTFPs in R.F.

- The resolution is silent about bamboo, Kendu leaves and Sal seeds, presently Nationalised NTFPs. These have been kept outside the purview of the resolution in the pretext that well-laid down policies exist for these. As a consequence of these "well-laid-down policies" 10 solvent extraction plants in the state have been closed down, sal seed prices

have been depressed for years; and Orissa Kendu Leaf pluckers get lowest wages/ remuneration as compared to other states, despite leaves of Orissa being of better quality.

- The resolution has provisions for excessive departmental control over NTFP trade. Provisions such as target-fixation etc. are against the spirit of free-trade, also reasonable control with DFOs for ensuring ecological sustainability can give "unreasonable powers" in their hands.

- The policy mentions about change required in "The Orissa Gram Panchayat Act" and the existing "Orissa Timber and other Forest Produce Transit Rules, 1980" but doesn't talk anything about other acts/policies like "The Orissa Excise (Mohua Flower) Rules, 1976", "The Board's Excise (Fixation of Fees on Mohua Flower) Rules, 1976" and also in the Sales Tax Act which influence the NTFP trade. As a result of existence of these acts collectives of gatherers those coming forward to participate in NTFP business has to face several hindrances (like, has to face harassment while approaching for transportation license etc.). For instance, in case of Mahua flower the communities have to pay Rs. 66 per quintal (Rs. 5 per quintal as storage fee, Rs. 50 per quintal as export fee, Rs. 10 per quintal as transportation fee and additional Rs. 1 per quintal as transportation fee outside the State) for marketing their products outside the state. In addition to this, an additional sales tax (which varies depending on type of product) has to be paid to the State. Due to imposition of different types of fees and hurdles faced in obtaining permission/license communities are unable to reach the outside market where there is exists scope for them to get higher price for their products.

Nationalised NTFPs: Policies and Impacts

a. Kendu Leaves

Kendu Leaves (botanical terminology - Diospyros melanoxylon) occupy a significant place among all NTFPs. Kendu leaf is produced in 23 districts and is abundantly available in the Western and Central parts of Orissa, i.e. Bolangir, Sambalpur, Kalahandi, parts of Koraput, Angul, Sundergarh, Keonjhar and Phulbani districts (some of these districts are the poorest districts in the country and is largely inhabited by scheduled castes and scheduled tribes). It, generates, at an average, more than one crore mandays of employment during the lean

summer months for 20 lakh of poor tribals and scheduled castes, specially women and children. During the summer months when there is hardly any agricultural work or any possibilities of wage work, KL provides hard cash to the poor.

Orissa is considered to be the largest producer of processed KL next to Madhya Pradesh and accounts for 15% of the total KL production in the country. The average annual production is 5 lakh tonnes.

Kendu Leaf Policy: *Since Independence to the Nationalisation*

In the Pre-independence period Kendu leaf contracts were given to the contractors / traders on long term lease basis, who had the rights to collect leaves all over the ex-state areas including the private lands. At this point of time the tenants had no right over the produce even from their own land. After independence of the Indian state the tenants were given rights over the leaf growing in their own landholdings. The immediate effect was the emergence of a large number of petty traders who entered into the contracts with the individual tenants for the collection of KL. Competition among these traders led to collection of immature leaves and deterioration in the quality of leaves. Apart from this, smuggling of the produce from private lands started and this was possible because distinction between the leaves collected from the State forests and private lands was difficult. This resulted to decline in the state revenue from KL. In order to tackle the problem Government of Orissa declared KL as an essential item and promulgated the KL (Control and Distribution) order in the year 1949. The prime objective behind the order was to sustain the trade without compromising the quality of the leaves. Thereafter, the government controlled the trade by giving the traders/contractors short term lease(3 years) through tender system. Simultaneously license system was imposed on the KL contractors/traders. The order had a provision for tenants, which said that the price payable for tenants would be about 25% higher compared to those from government lands. It was ensured that the license holder is bound to purchase from private growers at the prescribed price within a unit. The payment given to pluckers from government and community land was to be fixed from time to time by the concerned District magistrate / Sub-divisional officer/Divisional Forest Officer. The uniqueness of this order was that it had a commendable provision of sharing 50% of the revenue with the village panchayats for development activities since the revenue from KL comes from forest as well as community lands. However, the actual working of the system was considerably different.

In 1957 an enquiry committee headed by Sri Radhanath Rath, the then Minister, Development was set up to review various forest policies and practices including that of Kendu leaf. The enquiry committee looked into the following major options for KL: (Report of the Task Force).

- Introduction of free trade through abolishment of KL control order.
- State trading through a government department.
- State trading through a public undertaking.
- Working through cooperative societies.

The Forest Enquiry Committee came up with the following recommendations:

- Control on KL ought to be continued,
- The rate of payment, for collection of KL from government and private lands should be fixed by District Advisory Committee and
- Recruitment of adequate supervisory staff to ensure the wages revived by pluckers is in line with the rate fixation.

These recommendations led to a revision of the KL policy and enactment of the Orissa KL (Control of Trade) Act 1961, which tried to regulate the trade through State monopoly. The act allowed only the government authorised officers, or agent of the government to purchase or transport KL through tenders. The price of the leaf was fixed up on yearly basis by an advisory committee which constituted of members nominated from amongst the private KL growers, government officers and representatives of traders and Bidi manufactures. Ironically, in the committee there was no provision for any representation from the KL pluckers. Hence it was obvious that during price fixation pluckers interest was not given importance rather prices were fixed looking at the state and the trader's interest. Similar to the 1949 order, the act provided for the sharing of revenue with the village Panchayats / local bodies to carry out development activities.

This system remained in force from 1962 to 1972. Even this arrangement was not free from complaints. The act provided ample discretionary powers to the state government for appointing agents and purchasers, which were grossly misused. The government was dragged into the court and enquiry commissions have found several evidences of malpractice. The issue was highlighted in the media. In the pretext of removing corruption from KL trade a

plea for the nationalisation of the trade was put forward by some of the members of the State Legislative Assembly and also by the trade union. This appeal came at the time when the political situation in the state was unstable. It was alleged that KL traders were behind the political instability in the state. Through out 50s and 60s Orissa never had a Government for full term. The issue was debated in the assembly and circumstances forced the State to come out with a notification in January 1973 declaring the monopoly control of State over KL collection and marketing. It was the first of the so called minor forest produce to be brought under a monopoly regime in the State.

The KL nationalisation policy of the state had the following major objectives:

- Prevent exploitation of individual growers / primary collectors,
- Safeguard the state revenue,
- Ensure the quality and quantity of production of kendu leaves keeping in view the national and international market's demand.

KL Workforce

Regular employees (KL wing) – 2329
Seasonal staff – 19350
Casual workers – 2,39,000
Registered pluckers – 8,50,000
Person days generated – 2.6 crore days
(Source: Task Force Report)

With the nationalisation procurement and trading of the produce was brought under the direct control of the State. Procurement of leaves from the pluckers in addition to, primary level processing activities like drying, binding and storage are carried out by the KL wing, a separate body constituted under the territorial forest department. While marketing of the produce is done by Orissa Forest Development Corporation (OFDC).

One of the main objectives of nationalisation of kendu leaves was to reduce exploitation of pluckers through elimination of private traders. This however, didn't bring any significant change in the situation of the pluckers with the only difference being that the State replaced the private traders. The state government continues to treat revenue generation as its primary objectives in the Kendu Leaf trade, and this significant revenue generating activity of Government of Orissa is based largely on the labour of the KL pluckers.

Current Situation

Recently the Government of Orissa introduced Forest Development Tax @ 16% on KL which meant a substantial increase in purchase price for the traders. For this reason, this

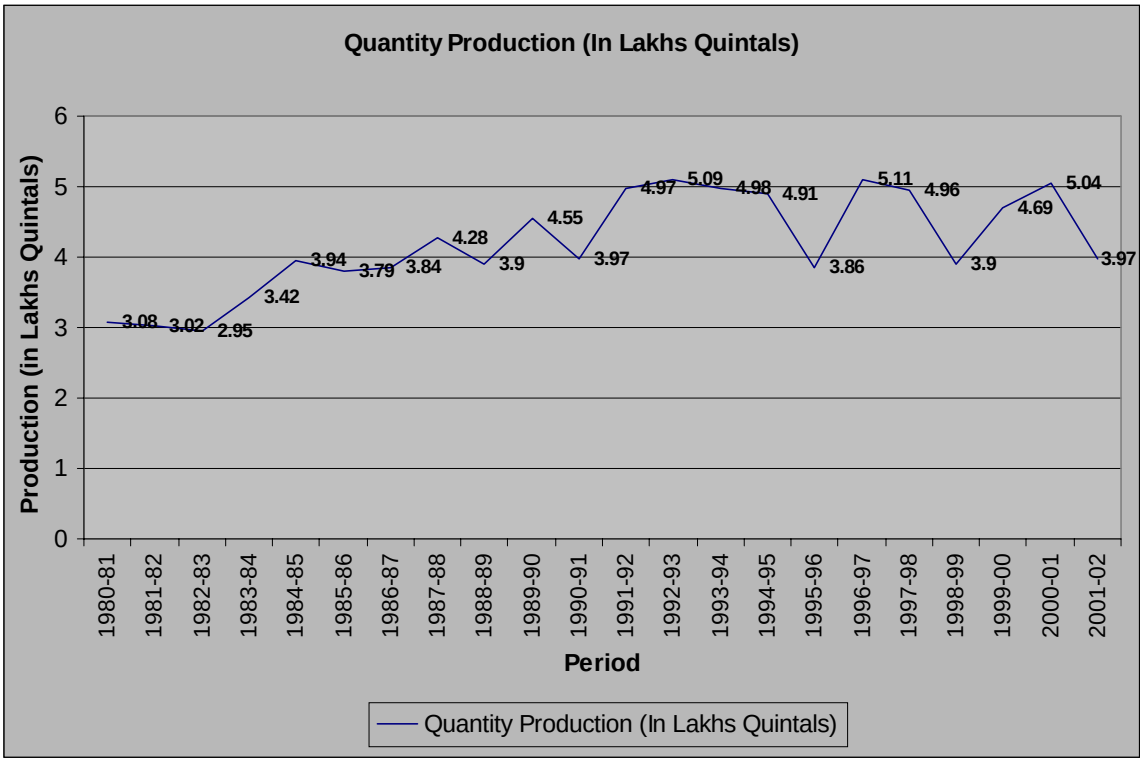
move of the government has been challenged by the traders in the court on the ground that the provisions of nationalisation policy did not favour such a provision. This besides, resulting loss in revenue to the State would also affect KL grant because to compensate the possible loss accrued from higher purchase prices the bidders would actually quote less price during tenders which would mean loss in revenue to the state and reduced net profit from the business thus, affecting KL grant which varies proportionately with the net profit. As such since last few years there has been a decline in the average price of KL, the average price which was Rs. 3771 per quintal in 1998-99 came down to Rs. 3442 per quintal in the year 2000-01. Under this situation the 16% forest development tax can be collected from the purchasers/market seems to be a distant reality. It is further expected that the administration of 16% FDT in Orissa while the same being 2% in the neighbouring states will affect the KL business of our state adversely. Because of high tax the traders will be more interested to purchase leaves from the neighbouring states. This may reduce total collection of KL in the State, thus affecting the incomes of lakh of poor pluckers. Therefore, imposition of forest development tax rather serving positively, will further worsen the condition of poor pluckers.

However, a final decision in this regard is yet to be taken by the State. Following the petition filed by the traders in this context the court have passed an interim order saying that all the money received under this head has to be kept in a separate account till the case is finally decided (Kendu Leaves, NTFP Profile Series IX, Vasundhara, 2004.)

Production of Kendu leaves

The annual production of leaves has increased ostensibly from 3.52 lakh quintals in the year 1973 (Mallik, op. cit., pg. 14) to 5.19 lakh quintals in 2000. Although year to year fluctuations ocurred in the production of leaves but apparently the average annual production is found to have increased in the post-nationalisation period i.e. 1973-99 by about 1.5 times of the pre-nationalisation period i.e. 1948-72. The graph given below shows the production of Kendu leaves during the last 22 years in the State.

Graph 3: Quantity production of Kendu leaves during the year 1980-81 to 2001-02(in Lakh quintals)



However, a matter of great concern is that there has been a drastic decline in the production of quality leaves i.e. Grade I to III from almost 50% in 1973-74 to 1% in 1998-99 besides production (Report of the Task Force on Restructuring KL trade in Orissa, pp vii). There are a number of factors attributing to this situation. But, the most important reason has been the improper bush cutting operations undertaken in the kendu leaf producing regions. In many areas there has been a practice to set fire in KL bushes instead of carrying out bush cutting operations by the KL department. Even the local people sometimes set fire of their own in their nearby KL bushes for quantitative and qualitative production. The number of days and the area brought under bush cutting operations in the field by KL department are reduced than what is actually earmarked in the budget. For instance, during the current year in one Phadi area in Ranpur *under* Nayagarh district (which comes under Daspalla KL Range of Phulbani KL Division) bush cutting was abruptly stopped after five days.

A significant amount of Kendu leaves get smuggled out of Orissa to the neighbouring states like Andhra Pradesh and Chhattisgarh. The smuggled leaves do not get officially reported due

to which the actual production figures are lowered. The higher price for the produce in Chhattisgarh yields to pilferage from the bordering areas in Orissa to the former state. The value of KL annually smuggled out is said to be Rs. 200 crores (Kendu Leaves, NTFP Profile Series IX, Vasundhara, 2004, pg 30).

The other reason behind low production is due to closing down of Phadi (KL procurement centres set up by government) in different areas. During post nationalisation period the government closed down phadis in some parts of Kuchinda, Sambalpur, Dhenkanal, Angul; Chitrakonda in Malkangiri district, Banspal block of Keonjhar district, Ranpur block of Nayagarh district etc., claiming that the quantity and quality of kendu leaves of these areas are not upto the mark as is required for the functioning of a Phadi. Absence of Phadi discourages the pluckers in collection and provides scope for smuggling by unauthorised traders. However, the pluckers do not always agree to the government's argument. In most of the non-phadi areas, in absence of government collection centres private traders operate illegally in a big way and exploits the pluckers paying them low prices. Here a question arises if the trade is not profitable as claimed by the government in these areas how come the private traders are operating and making profits. In one such case in Ranpur area the pluckers lobbied with the State for creation of Phadis, as a result of which two collection centres were once again set up in the area in 2001.

Kendu Leaf trade: Who Pays? Who Gains?

Kendu leaves: an important source of revenue generation

Kendu leaf trade is a very important source of non-tax revenue for the State government. The income earned from kendu leaf forms 74 percent of the total income earned by the forest department of the State.

Kendu leaves have also been an important source of earning foreign exchange for the State. Of the total production, 6-7 percent is exported to other countries (about 90 percent of the production in Orissa is consumed in other states of the country and 3-4 percent is consumed within the state). Sri Lanka and Pakistan has been the major importers of kendu leaves of

Orissa[19]. The leaves exported from India to outside countries are mostly from Orissa because Orissa has been the only State in the country which produces processed leaves. The following table-11 gives the export earning figures of some years from the export trade.

Table 11: Export earning figures of some years from the export trade of Kendu Leaves.

Country	Year	Foreign exchange (Rs. in Lakhs)	Country	Year	Foreign Exchange (Rs. in Lakhs)
Sri Lanka	1973-74	57.76	Pakistan	1975-76	15.76
	1974-75	54.51		1977-78	20.071
	1975-76	18.15		1978-79	24.411
	1976-77	10.90			
	1977-78	45.96			
	1978-79	43.95			
	1979-80	52.65			

(Source: Report of the Forest Enquiry Committee, Orissa, 1959)

However, since 1990s a significant decline has been observed in the quantity exported to these countries like since 1999 for Sri Lanka it has come down from 60000/65000 bags to about 40000 bags and for Pakistan, from 80000 bags to 35000/40000 bags now (Kendu Leaves, NTFP Profile Series IX, Vasundhara, 2004*).* A number of reasons are responsible for this situation. On one hand qualitative production of the leaves is decreasing and on the other hand the demand of bidi itself is decreasing. Bidi is gradually getting substituted with gutka, pan masala and other such items which are more convenient for use and more enjoyable and hence during the past 10 years, demand for bidi is said to have decreased more or less by 50% (Kendu Leaves, NTFP Profile Series IX, Vasundhara, 2004, pg 21). Increasing restrictions on smoking in the foreign countries has resulted in reduced international demand of this produce. Also, political decisions and disturbances influence the export market. Like, the government of Pakistan imposed certain restrictions on its import as

[19] Of the total KL amount exported from India to foreign countries Pakistan and Sri Lanka had a share of 65.61 % and 33.82 % respectively in the year 1994-95.
India has a monopoly in the export field of Kendu leaves as well as the bidis. The leaves are exported to 15 countries including UK and USA. In 1994-95 the total value of this export was more than 20 crores and the quantity was more than 4652 tonnes. (CSIR 2002, the Wealth of India, First supplement Series, Vol. 3, Table – 1, p.28 as quoted in *Kendu Leaves, NTFP Profile Series: IX, Vasundhara, 2004*)

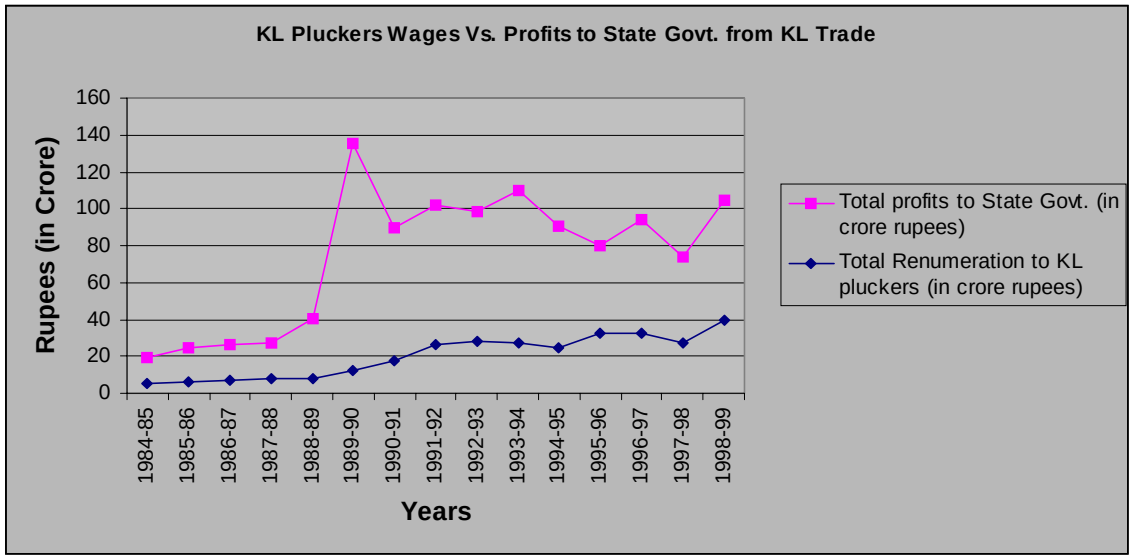
a result of which the export from India recorded a fall of 50% or more. Similarly, the civil war in Sri lanka badly affected imports from Orissa(Report of the Task Force on KL Trade quoted in Kendu Leaves, NTFP Profile Series IX, 2004, pg 24).

KL forms one of the most important revenue-earning source particularly for the State. Though the government makes huge revenue from it every year but, interestingly there is no budgetary support for the production and marketing process. Infact, the production cost (which primarily includes remuneration paid to the Kendu leaf pluckers, wages to temporary workers employed for binding, grading, bagging, supervision etc.) is met through a work advance provided by the OFDC Ltd. to the KL department. The revenue interest of the state can be judged from the fact that in the last eighteen years (during the period 1984-85 to 2001-02) royalty to the State Government from Kendu leaves ranged between Rs. 13.98 crores (1984-85) to as high as Rs. 122.79 crores(1989-90). The total royalty earned by the State Government in the last eighteen years amounts to approximately Rs. 1000 crores. The average share of revenue earned by the state is around 50 percentage of the total turn over in KL trade.

Implications on the livelihood of KL Pluckers

KL represents one of the most important cash income for the poor marginalised sections particularly during lean summer season when hardly any employment is available to the people. The labour of pluckers is the major investment in the trade but the way the trade functions show that the a major share from the profit is taken away by the state in the name of revenue while the share of the pluckers in terms of wages received by them actually comes to a very small amount.

Graph 4: KL Pluckers wages Vs. Profits to State Govt. from KL trade during the years 1984-85 to 1998-99



From the above graph one thing is clear that the total share of KL pluckers (wages paid to them for KL plucking) to the sale value is much lower in comparison to the profits earned by the state. While the share of KL pluckers to the total sale value ranges between 7.98% to 28%, profits to the state government is between 30% to 80% of the total sale value. In other words, the ratio between the two (Plucker wages and Profits to State Government) works out to 1:3 signifying that in the production process of KL, for every Rupee paid to the pluckers, the State earns three rupees (in one year i.e. 1989-90 it went upto more than Rs. 10). In the span of last 35 years, there have been nine occasions when KL price has been raised. Again, over the years the ratio between the pluckers wages and profits to the state government is increasing. Despite of all these, it is an admitted fact that the wages paid to the pluckers are abysmally low and not in keeping with the amount of labour put by them in procuring the leaves. In the last couple of years while the revenue from KL to the state has soared up like anything, there has not been a corresponding increase in the prices paid to the KL pluckers.

Prices fixed for purchase of KL from pluckers (No. of leaves purchased per paisa)

Year	Leaves
1969	50.0
1973	40.0
1975	30.0
1989	04.0
1992	02.0
1996	01.6
1998	01.5
1999	01.3
2001	1.00

(Community forestry, Volume 2/Issue 6, RCDC, November 2002)

In the context of the share of KL pluckers in sales proceeds, the situation in the neighbouring states is found to be better in comparison to Orissa. The share of the payments to KL pluckers in the total turnover of the KL trade in the State of MP and AP has been consistently higher than in Orissa- this reflects the lower purchase price of KL leaves in Orissa as well as the additional processing done in Orissa. A comparison in this context has been given in the following table for the period 1989-90 and 1995-96 which makes things clear.

Table 12 : Comparison of share of KL pluckers wages in total turnover sales between Orissa Madhya Pradesh and Andhra Pradesh states

Year	Share of KL pluckers in Orissa	Share of KL pluckers in MP	Share of KL pluckers in AP
1989-90	7.98%	16%	NA
1990-91	15.55%	61%	NA
1991-92	19.17%	38%	NA
1992-93	20.83%	39%	NA
1993-94	18.75%	49%	44%
1994-95	17.16%	42%	36%
1995-96	27.71%	41%	49%
1996-97	23.40%	46%	50%

Kendu Leaf Grant (KL Grant)

This is another important area on which a lot of debate is taking place at different levels because of the irregularities in its distribution and the way the grant is utilised. Orissa was the first state to have a provision for channelising of profits from KL operations to Gram Panchayat. According to section 11(1) of the KL (Control of Trade) Act, 1961, 50 percent of the net profits derived by the Government from the trade in KL shall go to the Panchayat Samittees and Gram Panchayats as hard cash KL grants. 90 percent of this amount [according to Section 11(1)], shall be distributed among KL growing sub-divisions, each Panchayat having a share of 72% and that of Panchayat Samittee's is 18%. But the system has been shrouded in controversy. Since 1983 onwards, the Government has not shown any interest in calculating the profits from KL trade and hence has not released KL Grants as per the Act. Rather, 10 crore Rupees have been released annually as ad-hoc KL grants to the Panchayats. The total KL grant pending for disbursement to Panchayatiraj Institutions during the period 1984-85 to 1995-96 comes to the tune of Rs. 163 crores (for details please see table -12). In the following years like in the year 1999-2000 Rs. 10 crores was distributed among 4334

GramPanchayats and 265 Panchayat Samittees and about Rs. 20.619 crores was distributed among all 30 districts in 2000-2001. For any given year this amounts to less than 15% to 20% of the Kendu leaves accrued to the state.

Another aspect of debate over KL grant is related with its disbursement to non-KL producing areas. There are certain districts which do not grow a single leaf of Kendu but are rewarded with portions of the KL grant by virtue of being home to influential and powerful political leadership. For instance, during 2000-01, 6 such districts where endu leaves is not available received 0.17% of the total grant allocated (Ama Jungala Amara, No. 25, as quoted in Kendu *Leaves, NTFP Profile Series IX, 2004, pg 18).*

The current situation reveals the prevalence of old practice of adhoc grant in the State despite the fact that the Eleventh Finance Commission had recommended that 50% of the net profit from KL trade is a statutory due of the PSs and GPs and they should not be deprived of their legitimate dues on grounds of non-availability of funds. It had urged the State Government to immediately release the amount in 5 installments, starting from 1998-99. Also, the Finance Commission had mentioned that the 2% earmarked for the Forest & Environment Department, to be spent for forestry purpose, should actually go to PSs and GPs but the actual situation in this regard is unknown.

Table 13: KL Grant ought to be disbursed to Gram Panchayats and actual grant received during the period 1984-85 to 1995-96(in Crores)

Years	**Gross Profit**	**Net Profit (according to the Govt.)**	**KL Grant to be disbursed to GP (50% of Net Profit)**	**KL Grant received by GP in actual**	**KL Grant pending due**
1984-85	13.98	9.54	4.77	2.51	2.26
1985-86	18.24	14.82	7.41	2.51	4.90
1986-87	19.01	13.95	6.98	3.62	3.36
1987-88	19.44	13.13	6.57	3.30	3.27
1988-89	31.97	23.95	11.97	2.51	9.46
1989-90	122.79	103.34	51.67	6.37	45.30
1990-91	72.63	55.74	27.87	4.01	23.86
1991-92	75.98	55.24	27.62	5.99	21.63
1992-93	70.04	45.52	22.76	10.00	12.76

1993-94	82.51	57.79	28.89	10.88	18.01
1994-95	66.19	49.09	24.55	9.80	14.75
1995-96	47.61	28.23	14.11	9.80	4.31
Total	638.40	470.34	235.17	71.30	163.87

[Source: Report of the State Finance Commission, Government of Orissa, 1998]

The KL grant have not been properly utilised and for the right kind of work as mentioned in the policy. In this regard a study was undertaken by Vasundhara in 4 Gram Panchayats namely, Lahunipada, Kulliposh, Kaleiposh and Khuntagaon in Sundergarh District during which information on amount spent under different heads from KL grant were documented for the period 1994-99. the study findings show that a large chunk of the disbursed grant actually goes towards administrative overheads like payment of salaries of the office bearers, including the Panchayat Secretaries, Sarpanchs, Watchmen etc. What is more disappointing that while the expenses incurred under salary head from the KL grant ranges between 49% - 68% but, there is no provision for expenditure on development of pluckers or the bush cutters those who are directly involved in KL operations. The pattern of expenditure is more or less of similar kind throughout the State. Infact, in the whole process the poor pluckers, bush cutters and binders suffers the most. Under the existing practice they do not get a share in their hard earned money but their money is spent in paying their representatives and in other 'elitist' activities such as cultural shows, tournaments and in donations (see Table-14).

Table 14: Utilization of KL Grants in 4 Gram Panchayats of Sundergarh District. (1994-99)

GP	KL grant	Actual Exp	Salary	Sports	Cultural	Computer	Road	*Donation
Lahunipara	212,695	212,695	136,000	32,000	10,000	2,000	25,000	19,911
Kulliposh	154,000	154,200	105,200	15,000	10,000	2,000	4,000	18,000
Kaleiposh	220,695	208,800	108,800	28,000	10,000	2,000	27,000	33,000
Khuntagoan	176,069	164,700	105,200	21,000	10,000	2,000	6,000	20,500
Total	763,459	752,611	455,200	96,000	40,000	8,000	62,000	91,411
Percent of Exp.		99%	61%	13%	5%	1%	8%	12%

*Donation means money given to Youth Clubs, Mahila Mandals and Schools.

It is apparently clear that the KL policy treats the poor pluckers as mere wage labourers and not owner of the produce (KL). In this way, they are being denied their due share of profit on which they have a rightful claim. Unlike the neighbouring States like Madhya Pradesh, which shares the part of the royalty as bonus with the KL pluckers, Orissa government doesn't have provisions of paying bonus to the pluckers. The MP Govt. has also taken a decision to plough back 100% of net profit generated from the KL trade as bonus to the KL pluckers. This is over and above the fact that the KL purchase price from the pluckers is much higher in both MP and AP as compared to Orissa. Apart from the sharing of royalty, both AP and MP provide many facilities to the KL pluckers including group insurance schemes. The schemes envisage a payment of Rs. 3000/- in case of natural death and Rs. 6000/- in case of accidental death to the nominee of the deceased.

Besides, the pluckers suffer in many other ways, which can be summarised as below:

- ***Delay Payments***:

Despite the fact that the pluckers need the cash critically during those lean summer months, they usually have to wait for more than three months to get the payment. This has been pointed out in the Comptroller and Accountant General's (CAG) report in 2000.

- ***Faulty entries in the pluckers cards and payments***

As per the government regulation every KL plucker is supplied with a card to be used by the phadi-munshi (Collection centre clerk) to enter the quantity and value of leaf given by the plucker. Often the munshi does not write the actual quantity of KL contributed by the plucker but mentions a lower figure.

- ***Taking excess leaves:***

As per the government norms a Kerri is a unit consisting of 20 leaf. But very often the munshi demands more than 20 leaf in a Kerri. The pluckers are never paid for the excess number of leaves. This happens, as in most places the pluckers are illiterate and unaware about the norms. Sometimes 25 leaves per bundle is the norm in certain phadis. This shows that pluckers get a price that is 20% lower than the government norm. This highlights the

stark reality of under payment to KL collectors in Orissa that too within the government stipulated trade process.

- ***Improper formation of Phadi committees***

The phadi committees were organised to involve the pluckers in the KL operation and to check the corruption. It constitutes of Munshi, Head Checker, Forester and pluckers. However phadi committees only exist on pen and paper and villagers are not involved in the process of its formation. As a result of this irregularity, these committees' remains grossly inactive and does not in any way serve the interest of the pluckers.

- ***Non-procurement from certain areas***

Though there exists potential for the production of good quality KL in many areas in Orissa, non-procurement by the government puts the pluckers at the mercy of exploitative traders. The lack of collection centres - Phadis - forces the pluckers to sell their leaves at a throw away prices to the Bidi manufacturers and their agents. One of the reason cited by the forest department is that KL operation in these areas is not viable.

Further, the policy is silent on the access of the pluckers who live in and around protected areas. These people are not allowed to collect kendu leaves in spite of the fact that KL collection in no way affects the wildlife there. This has raised discontentment among the people and strong protests against this have started taking roots in different parts of the State. The closure of Kendu leaf Phadis inside the Sunabeda Sanctuary came as a strong blow to the poor tribals in the area for whom selling Kendu leaf used to be one of the major sources of livelihood. There was a lot of protests from people's front against this and as a result of organized effort of the Kendu leaf pluckers they were able to sell Kendu leaf worth 3 lakh rupees in two phadis in 2002, which are located just outside the sanctuary boundary.

Through diversion of forestland to non-forestry uses like Dam building, Mining and Industry large number of people depriving people of their basic sources of livelihood. As mentioned earlier after the enactment of Forest Conservation Act, 1980 and till the period 2000 a total of 37855.3660 hectares of forest areas have been deforested for development projects destroying the lives and livelihood of thousands and thousands of poor people. A recent example of this is the ongoing Lower Suk Tel Dam project in Bolangir district of the state. This project is

going to submerge 5126 hectares of land out of which 638 hectare is forestland and produces not only best KL but also generates many life-supporting NTFPs.

Significance of Kendu leaves in Poverty alleviation

Looking at the huge benefits made by the State from KL trade there is no doubt that if the profit is shared equitably with the lakhs of poor who are involved in KL plucking, would directly lead to poverty alleviation and improvement of their livelihoods. Unfortunately, our State doesn't possess such an intention, which gets clearly reflected from the policy that regulates the trading of this produce. In practice the major thrust area of the KL policy has been revenue maximization and not welfare of the pluckers. According to a comparison made by Vasundhara (in 1999) on royalty earned by the State from KL and the mineral ore, it was observed that while the state made only Rs. 30/- per tonne royalty on bauxite, from KL the royalty was more than than Rs. 12000/ tonne (averaged). The royalty rates on KL are ridiculously high from any business sense and this rate of return is at the cost of the major factor of production - labour, both of the KL pluckers and the seasonal workers. Therefore, even if 50 percent of the royalty (surplus) generated from the Kendu leaves as of now is shared with the pluckers, it would, on an average lead to an additional income of Rs. 1000 to Rs. 1500/- per annum per household. [Vasundhara, 1999] The importance of this additional income for the poor households in the lean summer months (KL is plucked in summer) cannot be ignored. Since most of these HHs have to avail of informal usurious credit in these months for both consumption and agriculture input purposes at rates ranging from 100% to 200% per annum., the actual opportunity cost of this additional income is actually doubled i.e. an additional income of Rs. 1500/- from KL collection in the summer translates to an actual cost of more than Rs. 3000. Considering that almost all the families involved in KL collection are below the poverty line, this additional income assumes great importance for their livelihood. The importance of this additional direct income (over Rs. 30 crores) for the rural poor can be understood by the fact that to generate the same amount of income though IRDP investment, an amount of approximately Rs. 200 crores will have to be invested (assuming that all the investments are successful and there are no leakages of funds).

b. BAMBOO

Bamboo (botanical name - Dendrocalamus strictus) is an important source of livelihood for many forest dependent communities in the state. At the same time it also plays a significant

role in generation of revenue for the state. Bamboo was declared a nationalised forest product in the year 1988. According to an estimation done by Indian Council of Research and Education, bamboo forests spread over an area of 10, 500 square km. in the State and has a capacity to produce 4.89 lakh tonne bamboos annually. Orissa occupies third position in the country in terms of having huge potentiality of bamboo after Andhra Pradesh and Chattisgarh states. From economic point of view bamboo is categorised as Commercial bamboo and Industrial bamboo.

Bamboo: an important source of revenue generation

The royalty to the government from bamboo showed an increase from Rs.2.92 crores in the year 1980-81 to Rs.10 crores in 1992-93. Further, it is seen that particularly between the years 1990-91 and 1992-93 there is a rise in revenue to the state. Here it is important to note down that in 1990 the state govt. brought a change in bamboo policy. According to the new policy the paper mills were appointed as RMPs and it allowed them to undertake harvesting operations directly from forests. In the subsequent period revenue from bamboo has fallen which got severely affected during the last few years as the paper industries drastically reduced procurement of the bamboo produced for them.

Table 15: Procurement amount and revenue earned from bamboo during the period 1980-81 to 1999-00.

Year	**Production in lakh pieces / tonnes**	**Revenue(crore rupees)**	**Year**	**Prod. in lakh pieces/tonnes**	**Revenue in (crore rupees)**
1980-81	12.55 lakh pieces	2.92	1990-91	215965	6.45
1981-82	11.21 lakh pieces	3.84	1991-92	236940	7.00
1982-83	10.71 lakh pieces	3.36	1992-93	241451.2	10.00
1983-84	9.16 lakh pieces	3.01	1993-94	238357.31	9.65
1984-85	304843	3.80	1994-95	237343	8.91
1985-86	274528	4.29	1995-96	217802	10.02
1986-87	242442	3.35	1996-97	245734	8.74
1987-88	N.A.	2.89	1997-98	206182	9.06
1988-89	260955	6.49	19998-99	134454.45	8.52
1989-90	265650	4.96	1999-00	152569	5.50

(Source: Aam Jungle Amara, RCDC, Vol. No. 18, January 2002.)

Policy change

Prior to nationalisation, paper industries were directly involved in procurement of bamboo from forests. After nationalisation in 1988, Orissa Forest Development Corporation (OFDC) carried out procurement and sale of bamboo. In early 1990s the paper mills were appointed as RMPs (Raw Material Procurers). This policy change once again opened the door for the paper mills to get directly engaged in bamboo harvesting and they purchased their quota from OFDC. Almost after a decade's time in 2000 the RMP system was scrapped off and the earlier system was retained. This change in the policy brought in several problems in the subsequent years, which has been discussed in the following sections.

The Battle on Bamboo: Government Vs. Paper Mills

In Orissa three paper mills are functioning currently, i.e, two units of Ballarpur Industries LTd.(BILT) in Chowduar & Jeypore respectively and one unit of J.K. paper mill in Rayagada. During the last few years the paper mills have stopped purchasing bamboo from the government which has resulted into huge quantity of bamboo rotting in the godowns of the government. One of the main problem (though not the sole reason) leading to this situation was high pricing of the produce by the state government. The royalty on bamboo was increased from Rs.1500.00 per MT to Rs.1850.00 per MT in 2000.

On the other hand, the paper mills have switched over to new technology, reducing the use of bamboo in pulp making. Now the paper mills use a higher percentage of wood in pulp making (80% wood & 20% bamboo) which they mostly procure from Andhra Pradesh and a small percentage is met from the social forestry plantations under taken in the state.. Similarly, the paper mills procure bamboo mostly from outside states like Assam and Chattishgarh, which costs them cheaper in comparison to Orissa. The paper industry promoting social and farm forestry programmes in large scale to fulfil their raw materials *impose a new threat to bamboo trade as 95% of the total production of bamboo in the state was being used by the paper mills.*

The situation was worsened following a Supreme Court order, which did not allow commercial exploitation of bamboo in absence of valid Working Plans. As in most of the Forest Divisions the Working Plans had either expired or were about to expire, the state govt had to suspend bamboo cutting operations.

Implications on the livelihood of bamboo artisans and bamboo cutters

These developments have resulted into adverse impacts on the lives and livelihood of people those dependent on this forest produce. The closure of bamboo harvesting operations by GoO has rendered thousands of people (bamboo cutters in particular) jobless. According to a study report of DFID this has resulted in the loss of employment for approximately 80,000 persons.

The worst sufferers of the policy game are the bamboo artisans comprising of Betra, Mahar, Turi, Pahadia, Kamar, Hatt and Kandhas. These people are exclusively dependent on bamboo and eke out their livelihood by preparing different kinds of bamboo wares. The closure of harvesting operations led to scarcity of raw materials for their profession adversely affecting their livelihood. Also, this has had badly affected the livelihood of betel cultivators of the state. Numerous villages in coastal areas are engaged in betel farming which have a good demand in the export market. The betel farms in these areas were destroyed in the supercyclone that took place in 1999 and for reconstruction of farms huge quantity of bamboo was needed. The closure of harvesting operations coincidentally came during this period causing acute scarcity of the produce and brought in severe hardship for the cultivators. Again, resources available locally were not sufficient to meet the demands of people. However, the problem has now got minimised with regeneration of forest and the cultivators meet their demand from areas like Athgarh (Cuttack district), Baripada (Mayurbhanj district), Sorodo (Balasore district) etc.

Also, financial loss to the state has been immense due to the closure of bamboo harvesting. The following table-16 gives a picture of revenue loss occurred to the State as estimated in the year 2001.

Table 16: Loss occurred to the State after the closure of Bamboo harvesting operations

Loss in Royalty to the State	Rs. 5-7 crores
Royalty dues over OFDC	Rs. 16 crores
Dues regarding Silvicultural operations over OFDC	Rs. 7.5 crores
Royalty on Commercial bamboo	Rs. 2 crores

(Pragativadi, regional leading newspaper of the State, dated 29/10/01)

Since silvicultural operations are not being undertaken in bamboo areas it is ecologically damaging the bamboo forest. In some forests bamboo flowering has been noticed and it is feared that if the bamboos are not harvested soon, it will lead to complete destruction of all bamboo forests.

The state government is finally ready for full fledged bamboo cutting operations in the state and a consolidated Working Scheme has been prepared for this purpose for areas where the Working Plans have expired.

c. SAL SEED

Orissa remains one of the major producers of Sal seed (botanical name - Shorea robusta) in India. As Sal is the dominant species in most of the forests of Orissa, there is a huge potentiality of Sal seed in the State. According to an estimate made by Forest Department in the year 1999, the potentiality of total production of Sal seed in the state accounts to 15614.17 MT. However, the actual production figures may be much higher, since the output potentiality shown by the department is not calculated on the basis of actual observations in the field but are generally made taking into account the past records of production.

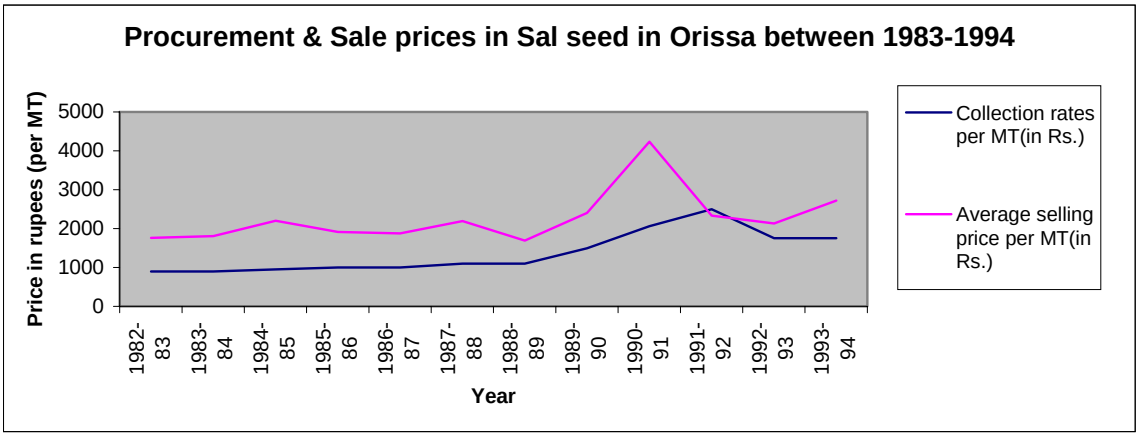
Livelihood Dependence and constraints faced by the collectors

Sal seed besides Kendu Leaves and Bamboo is another important forest produce that provides a substantial livelihood to the poor people. The income from this produce is very important as during the period when it is collected the poor tribals hardly have access to any other employment sources. Collection of Sal seeds usually stretch for a period of one and half months i.e. 15th May to 30th June (the period is fixed by the government) however, since last 4-5 years the collection period has been reduced. This policy change in reduction of collections days has largely affected the incomes of the poor gatherers.

For a long period almost for one decade, the price of Sal seeds remain stagnated at Rs. 1.75 per kg though minimum wages and selling price of Sal seeds experienced increase during the period whereas, in the year 1999 the price was hiked to Rs. 3.00 per kg. However, this increase in MPP doesn't necessarily mean that there has been an increase in the income of the collectors. This is so primarily because of the fact that the primary collectors often received low prices than MPP fixed by the government. For example, in the year 2003 when MPP for

Sal seeds was declared by the government to be Rs. 3.25/kg, collectors in the field were reported to have earned Rs. 1.00- 1.50/kg less than the MPP. Further, in absence of proper mechanism on the part of the government to ensure MPP to the primary gatherers this becomes a common phenomenon.

Graph 5: Procurement and Sale Prices in Sal Seed during the period 1983-1994 in the State



(Graph prepared based on Patnaik, op.cit., Annexure III(A), p. 167 as quoted in NTFP Profile Series: VII - Sal Seeds, Vasundhara, 2004)

Delay in declaration of the procurement policy has been another factor responsible for exploitation of the primary gatherers by yielding two situations. Firstly, often the procurement policy is declared late by the government by the time which collection of the produce is ready. Taking the advantage of this situation the traders offer lower prices to people. Secondly, because of the non-announcement of the procurement policy collection doesn't takes place as a result of which the primary gatherers are deprived from the direct income or else they are compelled to sell the produce to the private traders at a throwaway prices.

In some places the produce is exchanged with other necessary domestic commodities like with salt and there is greater chances of people getting cheated and exploited in this manner of trading by the private traders. In another case as happened in Karanjia area, Sal seeds was procured by OFDC officials from the people and in return were given credit slips for which

the poor gatherers remained unpaid(cash) for sometime. (NTFP Profile Series: VII - Sal Seeds, Vasundhara, 2004).

As has been mentioned earlier the short procurement period fixed by the government results in non-collection of seeds beyond the scheduled period which force the gatherers to sell their collection to private traders at low prices.

Also, there has been a long grievance of the poor pluckers in certain areas that OFDC and TDCC instead of collecting seeds directly from people purchase seeds from private traders and in this process the gatherers are deprived from MPP.

Policy vis-a-vis Interests of Collectors

The Sal seed trade was brought under the control of a private individual Mr. J.P. Lath in the year 1966 after obtaining 10 years long lease. In return, very small amount of royalty amounting to only Rs. 2.50 per tonnes of seeds was paid to the government by the lessee. In areas other than the control of Lath short term leases were given by Forest Department to OFDC, TDCC and Aska Central Multipurpose Cooperative Society Ltd. for procurement of seeds. The practice of short-term lease continued till 1979 after which leases were granted to private parties like Orissa Minor Oils Ltd. on long-term basis. In the year 1983 the sal seed trade was nationalised thus bringing it under the exclusive control of the State. The nationalisation policy held two important objectives; one was to ensure more revenue to the state and second, to help the primary gatherers earn better prices. As per the policy the responsibility of procurement was handed over to two government corporations, Orissa Forest Development Corporation (OFDC) and TDCC and disposal of the produce was carried out by them through tenders. However, during the period 1983-1994 these state corporations incurred heavy losses. Again, in the year 1995 the govt. corporations (OFDC and TDCC) leased out the produce to private oil extraction units called as SEP(Solvent extraction plants) with an aim to revive the sick extraction industry . The SEPs were appointed as raw material procurers (RMP) for procuring the produce from the primary gatherers. The industries, which were appointed as RMPs were:

1. Orissa Oil Industries (Sasan and Rairangpur units)
2. Hanuman Vitamin Foods Limited, Bargarh
3. Utkal Oils, Ambaguda

4. M/s Priti Oils Limited, Sambalpur

However, the situation at the field level showed a dismal picture with regard to the incomes of people derived from this source. Since 90's till 1999 the price of Sal seeds offered to the primary gatherers remained stagnant at Rs 1.75 per Kg. (Except when in one season, in between it was raised to Rs. 2.50 per Kg), where as the procurers sold the produce at a higher rate to TRIFED. The irregularity involved in the purchase of Sal seed from Orissa Oil Industries Ltd. and Utkal Oil Ltd. at Rs 3300 per MT comes to less than Rs 2300 per MT(Annual report of TRIFED, 1995-96). The oil companies thus made a cool profit of Rs 1000 per MT from marketing support by TRIFED, the organisation created to safeguard the economic interests of the tribals. The income of the primary gatherers could have been easily enhanced and the price increased to Rs. 2.75 per kg by sharing this additional 1000 rupees per MT with them.

In some areas the average village level collection price offered was Rs. 1.25 per Kg (lower than the price fixed). Further, Sal seeds were not being collected regularly by the appointed RMP and the collection amount remained far below the target procurement. At this price, the daily income comes to roughly 7.5 -10 rupees per day as daily collection is not more than 6 to 8 kg per day. The average annual production declined due to low prices offered, uncertainties relating to collection and may be also due to deliberate under reporting of the mills so as to avoid payment of royalty and other taxesFor e.g. the average collection of Sal seed in Balangir district was 215 MTs per annum in the period 1992-94 when OFDC was the collection agent. In the period 1995-97, when Priti Oils Ltd. was the procurer the average collection was about 44 MTs per annum, about one fifth of the earlier figure.

By a government notification, dated 20th May 1999, the Government made changes in the agents for Procurement of Sal seeds of 1999 crop. Through this notification, OFDC, TDCC and MARKFED were appointed as the agents of the Government for collection of Sal seeds for the 1999 collection season. The notification also specified Hanuman Vitamin Foods as the Raw Material Procurer for MARKFED and the purchase price of Sal seeds was increased to Rs. 3 per kg. Increasing the price of sal seeds indeed, was a remarkable step taken by the government and highly appreciated by the primary gatherers. However, before this resolution could be put into action, one of the RMP i.e. Preeti Oil mills who was denied the lease in

1999 went to court and restored the status quo arrangement. However, the court ordered the procurers to purchase the produce from the primary gatherers at new price i.e. Rs. 3/kg.

Since March 2000, Sal seed is again under the control of government and is dealt by TDCC and OFDC. The price of the produce during the last five years from 1999 has remained stagnant at Rs. 3/kg. Apart from low procurement prices, lack of proper mechanism to ensure the minimum procurement price, delay in declaration of procurement policy and poor market linkage are some of the important factors resulting into adverse impacts on the collectors.

SECTION III: INDUSTRIAL AND MINING SECTOR

The Past and Present of Industrial and Mining Polices of the State of Orissa and their implications

Introduction

"A state gifted with rich mineral resources, yet so poor", " Plenty of resources, plenty of poverty too", "why Orissa is so poor with so much abundant natural resources?" "Orissa's poverty unexplainable", these are among the most talked about statements on Orissa. A summary of the standard and typical statements and interpretations on the state and its situations would suggest that the State of Orissa is endowed with plenty of natural resources like forests, inland water, mineral deposits, raw materials the most essential elements required for pursuing the goal of modern development. Its long coastline combined with potentially viable ports inspires for developing Special Economic Zones (SEZ) and turning Orissa into one of the most industrially developed states. Planners and development critics are worried: despite all these positive features and factors the state has turned out to be one of the industrially and economically backward states of India. Surveyors and researchers point out that the state has come one-step down from an All India rank of 14th in 1960-61 to that of 13th in 1997-98 in terms of Industrialization (Annual Survey of Industries 97-98 and CMIE). The poverty ratio of the state is still one of the highest (47.15 in comparison to all India average of 26.10, Planning Commission, 1999-2000) in the country. It accounts for only 2% of the Industrial output, Employment and manufacturing value of the country (As per the Annual Survey of Industries: Factory Sector1997-98). The state is generally taken as a poor, traditional, backward and non-industrialized state and there is no way out to deal with the problems of poverty unless a process of rapid industrialization is initiated.

History of Industrialization in Orissa

Any contemporary discourse on development in Orissa does give an impression that Orissa is really backward in terms of industrialization, where as the actual scenario may not necessarily be so. Orissa has been there in the industrial and mining map of the country ever since the inception of mining and industry in India. The very first private sector steel plant established in India in Jameshedpur by Jamshedji Tata in pre-independence period sourced

its raw materials from the iron ore mines in Mayurbhanj district of Orissa. The public sector coal mines have also been there much before independence. The post independence period also witnessed a number of public sector initiatives in Orissa, which helped in expanding mining and industrial map of Orissa. Many large scale Industries like Rourkela Steel Plant, Hindustan Aeronautics Ltd,(HAL), National Aluminum Company(NALCO), etc came up one after another and mining sector also expanded significantly- an area that is continuously expanding. In the beginning of the Reforms Era that is in the year 1991-92, the mineral production was estimated at 37200000 tons. Within 10 years mineral production went up by 100 percent. As per the Economic Survey of Orissa-2002-03, mineral production in the year 2001-02 was estimated to be more than 74900000 tons.

The pace of development, which has been treated as if synonymous with industrialization, which in turn has been equated with mining, does not appear to be convincing for some people. This rate of industrialization in Orissa, they fear, may not lead us to a proper growth rate and therefore to greater reduction of poverty. However, there is dearth of questioning about the cost and benefits of industrialization so far as the poor and their economy is concerned. There does not seem to be any study which would give us an idea about each industrial and mining project in the state with the details of benefits they have brought to the native population, the local economy, the state and the nation and the cost of it. In fact the areas, which seem to be relatively developed in terms of mining and industrialization do also present a horrifying picture of abject poverty and pauperization of thousands of families mostly indigenous. The rate of employment is coming down with expansion of each mining project though it is done with huge foreign investment. At the same time the manufacturing and engineering goods sector has stagnated over the years leading to passive ancillary supporting base. Besides this, the net value added by manufacturing Industry to the National State Domestic Product (NSDP) has shown a very erratic trend over the years. After showing a marginally positive trend during 1993-1994, the share of manufacturing sector in the NSDP has started sliding (It was 7.37% in 1993-94, 4.06% in 1999-2000 and 2.51% in 2000-2001, Economic survey of Orissa, 2002-03). The manufacturing activities in the state have not diversified much within last thirty years either and the states Industrial structure has been primarily concentrated in Natural Resource Based Industries, to be more specific mineral based industries. Four major Industry groups, namely, electricity, basic metal and alloys, non-metallic minerals and Food products accounted for about 75% of the total Industrial Employment and 80% of the net value added (Annual Survey of Industries 1997-

98). So majority of growing Industries in Orissa are linked to the available natural resources like metals and minerals, Forest resources and water. Diversification and expansion in these sectors have also led to large-scale deforestation (Mining and Industrial sectors have accounted for nearly 39% of total conversion of forest area to non-forest area, Economic Survey of Orissa) and responsible for acquisition of 622463.94 hectares of land(Depriving the underprivileged, Balaji Pandey) of the poor in Tribal and Rural areas. As the majority of large industries and mineral resources are located in the Northern and Southern Tribal dominated regions of the state, they invariably encroach upon the major source of livelihood like forest produces, forest and revenue lands of Tribal and forest dwellers. It is important to note here that going by the incidence of poverty among various social groups in Orissa, Tribal constitute 22.21%(As per 1991Census) of the total population and the incidence of poverty among them is 85.5% and 79.1% respectively in the southern and Northern regions of the state (M.Panda, Changing Poverty Scenario of Orissa, 2000, Paper presented in Seminar of NCDS). In the backdrop of this debilitating poverty scenario among the Rural poor and Tribal of Northern and southern regions of the state, there has been little diversification of occupational base from primary sectors (Dependence in primary sectors like Agriculture, forestry has changed only from 85% in 1971 to 84% in 1991 in KBK districts, State Development Report, NCDS) within last three decades. Thin share of these regions in the small scale industries growth pattern(The share of Industrially backward districts had only 9.75% of total employment in SSI in 98-99, Economic Survey of Orissa,2000-01), stagnation of income from agriculture and fast degrading natural resources base has further shrunk their base of employment. The emphasis in successive Industrial Policies for large Industries and Mining sector has led to expansion of mining activities and establishment of some mega projects in the state. The overall contribution of large-scale industries in terms of poverty eradication and economic growth over last two decades has not been significant. The mega projects have however necessitated large-scale acquisition of revenue land, forestland and common property resources. As large number of rural poor and Tribal in the state are dependent on forests resources, forestlands and common property resources for their livelihood, acquisition of such land has led to massive displacement. Unfortunately, the state doesn't have any uniform Rehabilitation policy until now except the Rehabilitation policy framed by the Water Resources department in 1994 vides its resolution No. 25296. Till 1996 the "development" projects have displaced around 50,000 families and acquired around 33,000 hectares of land (Depriving the underprivileged for development, Balaji Pandey, ISED, 1998). Since majority of the displaced persons in the state so far have

belonged to the marginalized section of the population, the impact of such displacement on their socio-economic conditions has been severe. Only 25 % of the development project affected persons have been rehabilitated leading to large-scale landlessness, migration and disintegration among the poor families.

Three successive Industrial and mining policies of 1992, 1996 and 2001 of the state envisage growth of private investment in the sectors of Infrastructure development, mineral based industries and large Industrial projects. They have reiterated that growth of such industries would help to enhance employment and subsequently lead to economic development. Hence it is important to review the development actions pursued by the state and how they have contributed towards eradication of poverty in the following paragraphs.

The Poverty Profile of Orissa

Orissa is the poorest among all the major states of the country in terms of overall poverty as well as the rural poverty (Rural poverty stood at 48.01% against the all India average of 27.09% in 1999-2000, Planning commission). The poverty estimates made by various agencies including the planning commission shows that while the rest of the country has made significant progress in this regard (The percentage of population below poverty line in India has come down from 54.88% in 1973-74 to 26.10% in 1999-2000, Planning commission), the incidence of poverty in Orissa has not changed correspondingly (The percentage of population below poverty line came down from 66.18% to 47.15 during the same period in Orissa). The extent, depth and severity of rural poverty in Orissa are very high and its multidimensional facets have been maintained by dynamic interplay of several factors.

Table 1: Percentage of population below poverty line in Orissa and India

Year	Orissa			India		
	Rural	Urban	Total	Rural	Urban	Total
1	**2**	**3**	**4**	**5**	**6**	**7**
1973-74	67.28	55.62	66.18	56.44	49.01	54.88
1977-78	72.38	50.92	70.07	53.07	45.24	51.32
1983-84	67.53	49.15	65.29	45.65	40.79	44.48
1987-88	57.64	41.53	55.58	39.09	38.2	38.36
1993-94	49.72	41.64	48.56	37.27	32.36	35.97
1999-00	48.01	42.83	47.15	27.09	23.62	26.1

The majority of the population (Nearly 87%), in the state lives in rural areas and is highly dependent on Agriculture (73%, Statistical Abstract, Directorate of Economics and Statistics, Orissa). This trend of high dependence on Agriculture has been maintained (Percentage of Total workforce engaged in Agriculture was 73.8% in 1960-61, 77.4% in 70-71, 74.7% in 80-81 and 73 % in 90-91, Statistical Abstract) despite a decrease in income from agriculture towards NSDP. Lack of corresponding growth and employment opportunities in other sectors have forced people to depend on agriculture despite a significant drop in relative income from this primary source of livelihood. This has given rise to disguised unemployment and seasonal employment. Since the per capita availability of cultivated land has reduced from 0.39 hectare in 1951 to 0.17 hectare in 1999 and population has increased exponentially without any perceptible change in food grins production, heavy dependence on this sector has led to a different kind of vulnerability. The percentage of agricultural workers to main workers has increased from 17% in 1961 to 28.7% in 1990-91, while the percentage of cultivators has reduced from 56.8% to 44.3% in 1990-91 (Census of India,). This trend of occupational base has turned a majority of rural population dependent on uneven income from agriculture, as it is highly dependent on vagaries of nature.

The extent of poverty is not evenly distributed in all regions and among all social groups of Orissa. Some of the regions like Tribal dominated Northern and Southern regions are characterized by high concentration of Tribal population (It was 39. 7 % in southern region and 34.5% in Northern region in 1983, State Development Report, NCDS). As the incidence of poverty is very high among the ST Population (They contributed 38% towards total poverty ratio of the state in 1993-94, M. Panda, 2000) and the poverty ratio among them hasn’t reduced over two decades, these regions remain highly backward. The other feature of regional diversity akin to poverty and backwardness in the state is best demonstrated by the KBK Districts (Comprising of Klahandi, Koraput, Malkangiri, Nawarangpur, Ryagada, Bolangir, Sonepur and Nuapada). Mostly poor Tribal and Rural population of the state who have borne the wrath of repeated droughts due to uneven rainfall in the region inhibit these Districts. There has been no change in the pattern of dependence over primary sector (Agriculture and forestry) for livelihood within last decades in these regions due to lack of alternative source of employment (It was 85 % in 1971 and 84% in 1991, Census data, Government of India). But the average food grain production in the region is very low owing to several factors like uneven rainfall, low irrigated area compared to gross cultivated area, yield rate etc (The % of irrigated area of Kalahandi District was 25.3 compared to 69.1% of

Cuttack District in 1998-99, Orissa Agricultural Statistics 98-99, Directorate of Agriculture and Food production). The other major source of Tribal and rural poor namely forest resources is fast degrading leading to increase in proportion of daily wage labourers, unemployment, migration etc. Lack of livelihood security has led to high degree of food insecurity and starvation deaths in the region.

The high degrees of dependence of the agrarian population on primary sector and subsequent decrease of income from these sectors have not been accompanied by growth in Industrial output. The large and medium Industries have not expanded in a systematic manner leading to seizure of growth in ancillary industries and employment opportunities. On contrary, whatever growth was achieved in the small enterprises sector during 80s remained concentrated on some industrially developed districts. This further alienated large population of rural poor from the benefits of development who had to pay a heavy price for the Industrial development of the state in the form of displacement and migration from their resource rich areas. The Industrial and mining projects developed at the cost of major source of livelihood of rural poor like forest and land, didn't include the unskilled rural poor in the employment opportunities created in this sector.

Growth Vs. Employment Generation

The majority of population of Orissa is based in rural areas and is highly dependent on agriculture (73%) for its livelihood. There has been only marginal change in the dependence over agriculture in last four decades. But the share of agriculture in NSDP has reduced from 66.8% in 1951-52 to 30.75% in 1999-2000 (Economic survey of Orissa).

Several factors are responsible for this slide in the income from agriculture including the gradual decrease in percentage share of plan outlay of the state from 18.65% in 4^{th} plan (1969-74) to 3.75% in 9^{th} plan (1997-2002). The decrease in plan outlay has reduced the much expected growth and investment in some of the important areas like irrigation facilities, agricultural extension services etc. As the dependence on agriculture has remained more or less constant over last three decades, the relative income from this sector has reduced leading to disguised employment and underemployment. The increase in proportion of agricultural laborers from 17% in 61 to 28.7% (Census data) in 1991 shows that large proportion of people depending on this sector have become more vulnerable and poor. The data mentioned in table-1 reveals that growth pattern of this sector has also reduced from 3.07% during 1980-

90to 1.90 in 1990-2000. The situation has been further aggravated by an uneven and low growth in the manufacturing sector within last fifty years. It has come down from 9.12% to in 1980-83 to 6.14% in 1997-2000(Economic survey of Orissa). Besides, the growth pattern shows a negative trend showing a lack of expansion in this sector and employment opportunities. Lack of growth in manufacturing sector has reduced the chances of diversification in Industrial base. It is also clear from table-1 that from among the primary sectors, only Mining and quarrying sector has registered a positive trend of growth (It has increased from 8.72% in 1980-90 to 12.70% in 1990-2000). This can be attributed to increase in mineral production during the decades of 1980s and 90s. But the increase in the share of mining sector has not helped much in eradication of poverty as direct employment has decreased in this sector by 34% during 1991-2002(Economic survey of Orissa, various issues). Apart from this shrinking base of employment opportunities in primary sectors, the overall performance of Orissa in terms of economic growth and human development has been poor during the last five decades of development compared to the all India average. The important indicator of material progress is the per capita Gross State Product (GSDP), which measures the income generated in the state per head of population. The per capita Gross State Domestic Product (GSDP) of Orissa in 1997-98 was Rs.1924/-(at 1980-81 prices) and this was lower than the All India per capita income of Rs3251/- by about 41%. The gap between the per capita income of the state (NSDP) and national average per capita income at 1980-81 constant prices has risen from Rs.316/- in 1980-81 to Rs.1126/- in 1997-98. Thus, instead of catching up with the rest of the country, the state continues to lag behind, and gap has increased fourfold. The increase in the gap in per capita income shows that we have not only remained poor, but also in fact have become relatively poorer. The Real Net Domestic Product of Orissa has not grown at a rapid rate since 1951-52. This is happening during the period in which we see the state agriculture stagnating and growth in manufacturing sector becoming more uneven.

Table 2: Annual compound growth rate of Net State Domestic Product (NSDP) and the share of Manufacturing in NSDP at 1970-71 prices (in %)

Period	NSDP	Share of Manufacturing
1951-52 to 1961-62	1.2	3.9
1961-62 to 1971-72	2.4	-0.7
1971-72 to 1981-82	2.6	2.9

1981-82 to 1991-92	4.1*	4.6
1991-92 to 1994-95	3.3*	-5.9
1951-52 to 1981-82	-	1.9

(Source: Calculated from the data available in the Directorate of Economics and Statistics, Govt. of Orissa)

Note: (1) * Based on real NSDP at 1980-81 prices

Growth rates are calculated by using the semi-log equation: $Y=ab^t$

Where Y=NSDP or share of manufacturing, and t= time period.

Table 3: Growth Rate of NSDP of Orissa and its Sectors from 1980-81 to 1999-2000 (At 1980-81 prices)

Sector	**1980-81 to 1989-90**	**1990-91 to 1999-2000**	**1980-81 to 1999-2000**
Primary Sectors	3.03	3.45	1.48
Agriculture & Animal Husbandry	3.07	1.90	0.39
Forestry and Logging	-2.72	-1.26	-3.37
Fishing	9.08	8.51	9.59
Mining and Quarrying	8.72	12.70	11.94
Secondary Sector	7.05	-2.93	2.73
Manufacturing (registered)	15.16	-19.15	-0.46
Manufacturing (unregistered)	2.55	8.02	3.30
Construction	3.54	0.488	4.26
Electricity, Gas and Water Supply	5.17	-2.92	3.52
Tertiary Sector	6.62	6.71	6.01
Railways	12.81	4.68	10.63
Transport by other means and storage	11.90	6.71	7.83
Communications	7.88	13.68	8.82
Trade, Hotel and Restaurant	5.66	6.75	5.47
Banking and Insurance	14.53	9.78	11.26
Real Estate, Ownership of Dwellings and business Services	2.80	2.80	2.74

Public Administration	7.55	6.16	5.69
Other Services	7.48	7.24	6.88
NSDP	4.25	4.65	3.39
Per Capita	2.39	3.16	2.64

Note: Figures within parentheses are estimates of growth of NSDP and per capita NSDP by leaving out the registered manufacturing sector.

Graph-I: Growth rate of NSDP of Orissa and its Sectors from 1980-81 to 1999-2000

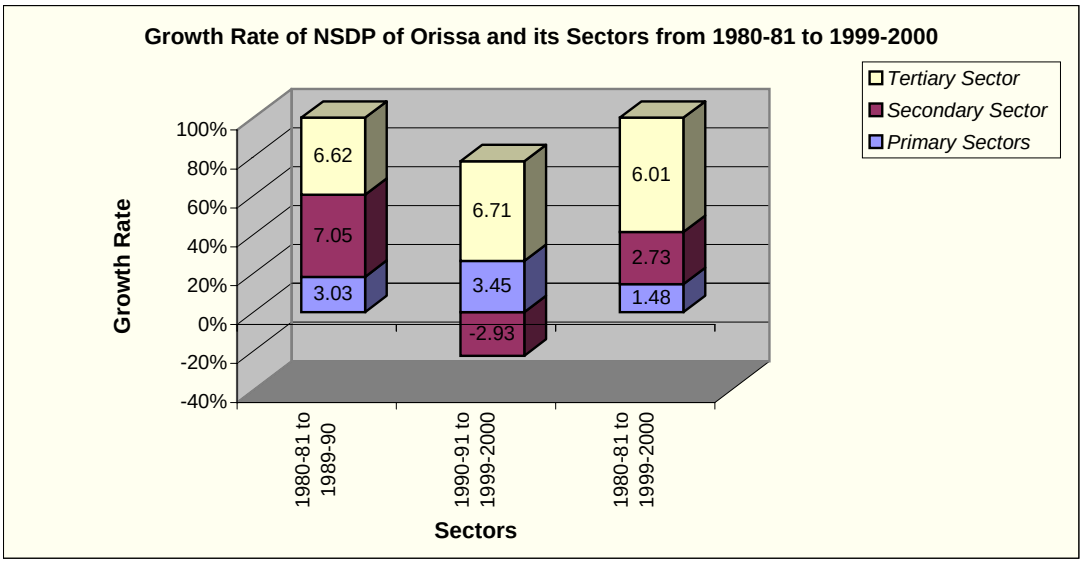


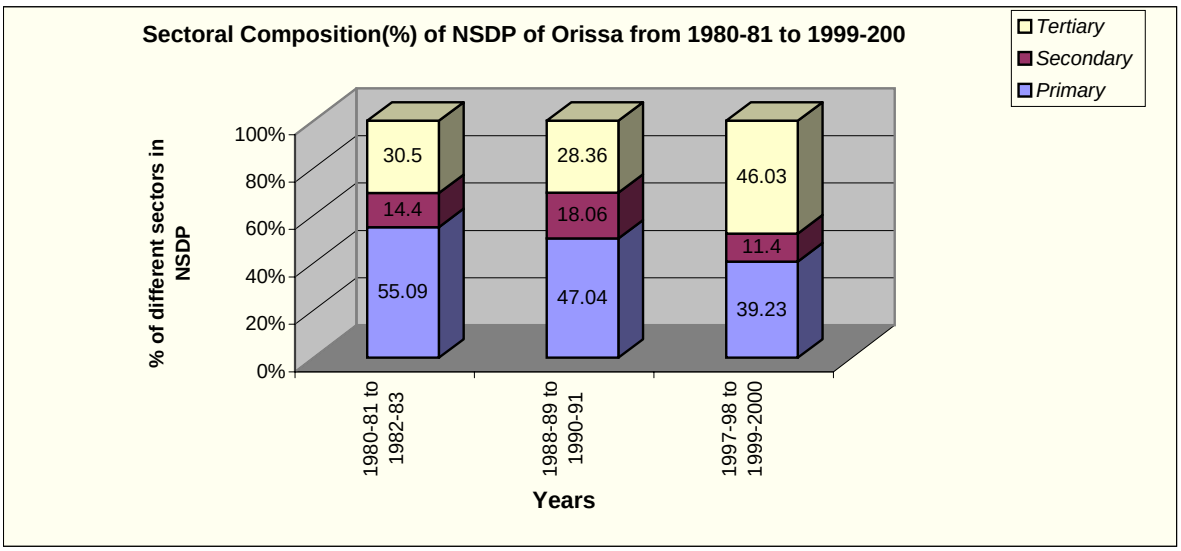
Table 4: Sectoral Composition (%) of NSDP, Orissa

Sectors	**1980-81 to 1982-83**	**1988-89 to 1990-91**	**1997-98 to 1999-2000**
Agriculture and Animal Husbandry	46.57	39.14	30.75
Forestry and Logging	5.18	2.84	1.73
Fishing	1.17	1.70	2.91
Mining and Quarrying	2.17	3.35	7.16
Primary	**55.09**	**47.04**	**39.23**
Manufacturing	9.12	12.20	6.14
Manufacturing (Registered)	3.70	7.46	1.56

Manufacturing (Unregistered)	5.42	4.73	6.11
Electricity, Gas	1.13	1.22	1.03
Construction	4.14	4.63	4.22
Secondary	**14.40**	**18.06**	**11.40**
Trade, Hotels and Restaurants	14.17	15.04	19.73
Transport, Storage and Communications	1.38	2.11	3.02
Banking, Insurance, Real Estate and Business	5.96	7.20	9.31
Community Social and Personal Services	8.64	10.35	13.95
Public Administration	3.96	4.79	5.90
Other Services	4.66	5.59	8.05
Tertiary	**30.50**	**28.36**	**46.03**
NSDP	100	100	100

(Source : Economic Survey of Orissa)

Graph II - Sectoral Composition (%) of NSDP of Orissa from 1980-81 to 1999-2000



Large and Medium industries in Orissa

1. The Policy Environment:

There was no comprehensive industrial policy up to 1980 in the state. There were some policies earlier but they lacked continuity and focus. In the early 1960s, a scheme of setting

up panchayats level industries was introduced in the state for dispersed industrial development over all areas. These were set up to utilize local resources at panchayats level and to meet the local demands. But due to problems of marketing, lack of infrastructure and entrepreneurship, the units set up could not thrive. For the first time, the industrial policy formulated by the state government in August 1980 reflected an integrated approach for exploring the opportunities lying untapped in this sector. The new policy provided a large number of incentives mainly in the form of subsidies for factory sheds, capital investment, and power and so on to attract entrepreneurs to the state. However, the real shift in direction and focus of the state government gained momentum in the successive policies of 1992, 1996 and 2001. All these policies had been framed after adoption of the policy of economic liberalization at the center and they envisaged higher private investment in large industries and mining sector, growth of Infrastructure, expansion of employment opportunities and eventually economic growth. The policies also contained number of incentives for the small-scale industries and different Districts were divided in to three zones depending on their level of Industrial backwardness. Tribal Districts like undivided Kalahandi, Phulabani , Koraput were put in zone A which would get special attention . It was assumed that special provision like sales tax incentives and subsidies on interest of loan to SSIs in these industrially backward Districts would help the growth of SSIs and investment scenario there. This was further expected to reduce the regional disparity in the level of Industrial backwardness between different districts of the state and a surge in employment opportunities in backward Districts. The major hindrance of Industrial growth like infrastructure facilities was supposed to be dealt with by attracting higher private investment for this sector. Further it was assumed that systematic exploration of mineral resources located in backward regions would lead to development and increase in employment opportunities in these regions. Hence the policies of 1996 and 2001 systematically tried to simplify the procedures for higher investment through institutional support from within the Government departments in large Industries and mining sector. The process of land acquisition, dissemination of information etc were supposed to be dealt with through promotional bodies like IPICOL, IDCO, Directorate of Industries and District Industries Center. Clearance of fast track projects through single window system was emphasized.

The policies stated that growth of Large and medium Industries all over the state and mines in the backward regions would lead to development and employment generation.

2. Institutions for Promotion of Industries and their performance

The promotional bodies responsible for development of large and medium industries in the state provided range of services to prospective entrepreneurs including information, consultancy services, escort services, credit support etc. However, it was observed that while some promotional bodies responded positively to the changing needs of Industrial environmental in the state, others failed in spreading the benefits evenly to all regions and to all social groups.

3. Industrial Promotion and Investment Corporation of Orissa Limited (IPICOL)

IPICOL has been assigned the task of providing all information related to setting up of large Industries in the state. It was set up in 1973 as nodal agency for promotion and development of large industries. This promotional body also promotes joint ventures, specific projects and provides escort services, electric duty loans and sales tax loans to major Industrial ventures. Since its inception until 2002, it has promoted 263 units with project cost of 2931.70 Crores and has generated 34294 numbers (Economic survey of Orissa, 2002-2003) of employment opportunities. This promotional body has been playing an important role in helping the industries to spread into backward areas. It has been providing vital information to prospective large and medium entrepreneurs on availability of land, credit support and other projected related support through single window contact system after the introduction of the concept of " Shilpa Jyoti " in the Industrial policy of 2001 .

Table 5: Large and Medium Industries promoted by IPICOL

Sl No	Year	No of units gone into production	Project cost (Rs in crore)	Employment generated
1	2	3	4	5
1	By the end of 1996-97	237	1283.56	30903
2	1997-98	5	55.54	768
3	1998-99	7	22.52	378
4	1999-00	3	9.3	423
5	2000-01	3	20.23	155
6	2001-02	8	1540.55	1667

4. Industrial Development Corporation of Orissa

IDCOL was set up in 1962 with an objective of promoting large and medium industrial units and create employment in the state. It has helped to set up industrial units in the sectors like cement, ferrochrome, Pig Iron etc. The corporation has so far set up 14 Industrial units in the sectors mentioned above. But since 1997 the growth rate of these units have shown a declining trend and some of the units have sustained losses due to fluctuating market prices.

Table 6: Surplus and Employment generated by IDCOL during the period 1993-94 t0 1999-2000

Period	Total Investment in 000	Employment generated	Source of finance		Profit (+) Deficit (-)
			State Govt.	Other Sources	
1	2	3	4	5	6
Till 1993-94	20588	2,707	8,217	12,371	(+)2901
1994-95	1432	(-)11	432	1,000	(+)754
1995-96	4358	153	109	4,249	(+)1596
1996-97	(-)329	(-)4	296	(-)625	(-)1241
1997-98	2809	(-)379	(-)864	3,673	(-)2451
1998-99	(-)1914	(-)10	-	(-)1914	(-)3295
1999-00	12032	(-)5	317	11,715	(-)3664

(Source : Economic Survey of Orissa)

The table above indicates about the poor health of IDCOL particularly since 1996-97 in terms of both surplus and employment generated by it.

5. ***Orissa Industrial Infrastructure Development Corporation (IIDCO)***

This promotional body was established in 1981 with the objective of creating infrastructure facilities within the state for accelerating industrial growth. In response to the stated objectives, IIDCO has established 66 Industrial Estates, constructed 1562 no. of industrial shades and 243 no. of shops on contract basis (Economic Survey of Orissa, 2002-2003). IIDCO has been appointed as the Nodal Agency for acquiring land in different districts for Large and medium industries and implement the land Bank concept as mentioned in the

Industrial policy of 2001. As per the policy of 2001, IIDCO would acquire land for Industrial Estates, Industrial growth centers etc and would also charge premium for land inclusive of the cost of acquisition (Cost of Relief and Rehabilitation) incurred by it from Enterprises.

Iidco has been operating, as a state owned land bank for industries and been acting as a middleman between the land losers and the industrial projects benefiting out of it. Iidco enjoys the reputation of a friend of industries in public perception. No other function of Iidco has attracted notice of the public other than its process of acquiring land for mega projects.

6. ***Orissa State Financial Corporation (OSFC)***

Orissa State Financial Corporation was set up in 1956 with an objective of providing term loans for establishment of small and medium scale industries. It receives financial assistance from the state and central government. It also acts as an agency to provide seed capital loan of IDBI to technically qualified entrepreneurs.

The institution was designed create an industrial revolution in the state by promoting and financing small and medium scale industrial enterprises. By 2001 it had incurred a loss of Rs 365 crores. Now since the priorities of the government have changed it may not be possible to revive OSFC and make it relevant for the small-scale sector.

Industrial Base of Orissa

Among various categories of industries, the share of Electricity, Basic metal and alloys, the non metallic minerals and food products has been highest for employment generation and total net value added to the state domestic products from 1966-1998 (Vyasulu and Kumar, 1997, m 46,Table 1.2 and Annual Survey of Industries, 1997-98). These industries groups have all together accounted for nearly 80% of the total employment generated and around 75% of the total net value added in the state (Factory sector). But the engineering goods industry have accounted for only 6% and 3% in the employment and net value (State Development Report, NCDS).

Table 7: Industrial Base of Orissa: 1966-98

Sl	Industry	Employment		Net Value Added	
		1966-89	1997-98	1966-89	1997-98
1	Food products	9.19	8.14	3.95	4.10

2	Beverage	1.28	1.05	0.71	0.27
3	Cotton Textiles	9.43	6.51	4.68	0.55
4	*		1.45***		0.12***
5	Jute Textiles		1.67		0.22
6	Textile Products	0.13	0.59	0.03	0.10
7	Wood and Products	3.72	1.13	1.25	0.21
8	Paper and Products	13.38	6.91	12.42	2.52
9	Leather & Production		0.05***		0.64***
10	Chemical & Production	3.48	5.60	2.48	0.89
11	Rubber, petrol etc	0.26	2.90	0.16	3.97
12	Non-met. Mineral	11.58	9.02	11.67	6.06
13	Basic met. & Alloy	36.53	27.25	50.89	19.82
14	Metal Products	1.94	2.66	1.18	0.56
15	Ele.Non-ele mach	3.24	2.65	4.67	2.09
16	Transport Equipment	0.70	0.17	0.29	0.05
17	Other manu.	5.13	0.14	5.60	0.01
18	Repair cap Goods		1.63		0.52
19	Electricity		19.67		56.97
20	Stor. & Warehouse		0.14		0.05
21	Repair services		0.66		0.28
All Industries		100.00	100.00	100.00	100.00

(Source: For 1966-89, Vyasulu and Kumar (1997: M 46, Table 1.2) and for the rest Annual Survey of Industries 1997-98, Summary Results For Factory sector.)

Note: *: These industry groups have not been included in Vyasulu and Kumar (1997). **: Annual averages, *** Data relate to 1996-97

This shows a trend of stunted growth in the manufacturing sector. Even as mentioned in the table 1, the growth rate of registered manufacturing sector has declined from 15.16 from1980-1990 to -19.15(Directorate of Industries and Statistics, Government of Orissa) .The sectoral composition of manufacturing industry has come down from 9.12 % in 1980-83 to 6.14 % in 1997-2000 (Table- 2). Marginal share of manufacturing sector in the Industrial base signifies lack of technical and Industrial progress in the state. It was expected that after

the policy of liberalization at the center in 1991 and stated focus of the subsequent industrial policies of the state in 1992, 1996 for private investment in large and medium industries, manufacturing sector would grow faster. However, This does not seem to have happened. In the last three–four decades the four groups of industries namely Electricity, food products, metals and minerals have maintained their thick share in the total net value and employment. All these industries are natural resource based Industries. This shows that the industrial base of the state is not as diversified as is required for balanced Industrial growth. Lack of expansion and adequate growth in the manufacturing sector has also hindered the growth of ancillary Industries thus showing a presence of passive Industrial base in the economy. Apart from this, even if the share of agriculture in the state domestic product continues to be substantial and contribute s to around 75% of total employment, adequate investment has not been made in agriculture and agriculture based industries and food products. The stated objective of the industrial policies of 1996 mention clearly that agro based industries would be developed. However the investment and growth of the primary sector relating to agriculture and agro-products doesn't correspond to the stated objectives within this period.

The table 1 shows that the growth of agriculture and Animal husbandry sector has declined from 3.07 during 1980-90 to 1.90 during 1990-2000 and its share in sectoral composition of NSDP has declined from 46.57% during 1980-83 to 30.75 during 1997-2000. Despite decrease in income from agriculture, the proportion of agricultural workers to total main workers in the state has increased from 17% in 1961 to 28.9% in 1991. This trend implies lower income for the workers of this sector and increasing vulnerability given the uneven performance of agriculture.

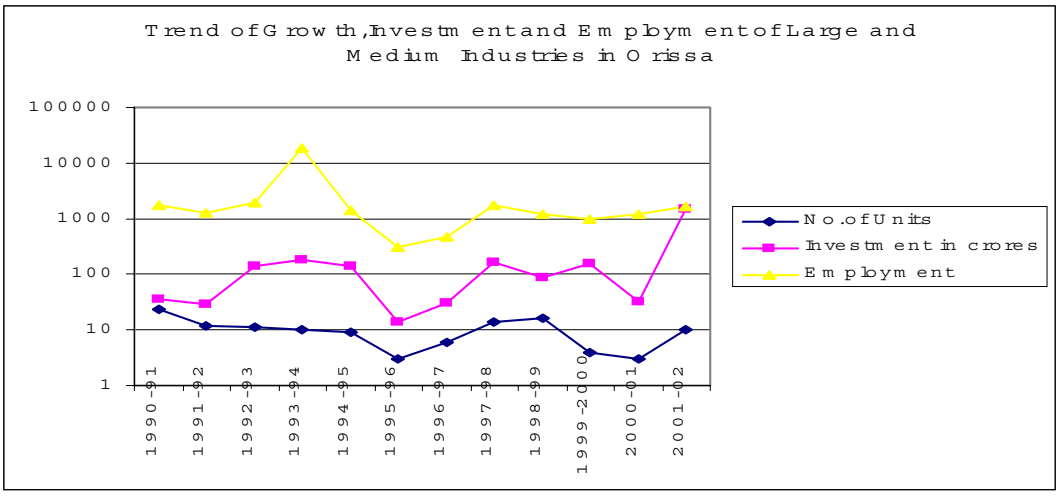
Pattern of Investment, growth and Employment generation in Large and Medium Industries

The amount of investment in large and medium industries has increased around 40 times from 1990 in 2001. But the rate of employment generated in this sector has gone down by around 8%. Even the pattern of investment over last twelve years show that the quantum jump has taken place in the financial year 2001-2002. The table below also reveals that in terms of numbers of unit gone into production for each year within last twelve years show uneven growth. After the adoption of Industrial policy of 1996, which gives utmost priority to private investment, investment proposals have surged.

Table 8: Pattern of Investment and Employment generated during the period 1990-91 to 2001-02

Sl No	Year	Total No. of Units gone into production	Investment (in crores)	Employment Generated
1	By the End of 7th Plan Period	231	1044.88	69456
1	1990-91	23	36.15	1751
2	1991-92	12	28.18	1302
3	1992-93	11	137.23	1985
4	1993-94	10	186.49	1881
5	1994-95	9	140.05	1427
6	1995-96	3	14.16	313
7	1996-97	6	29.82	476
8	1997-98	14	167.47	1769
9	1998-99	16	85.39	1203
10	1999-2000	4	156.54	963
11	2000-2001	3	31.93	1226
12	2001-2002	10	1492.34	1615

Graph III – Trend of Growth, Investment and Employment of large and medium industries in Orissa



(Source: Economic Survey of Orissa 2002-03)

It is clear from the trend shown above that pattern of investment as well as employment has shown some positive trend during 1992-94. However, thereafter, the pattern of investment and employment generated has shown a downward trend. This shows that initial momentum gained in the backdrop of liberalization policies couldn't be maintained in subsequent financial years. It is also quite interesting to note that even when the amount of investment and number of production units have gone up in 2001, the employment opportunities have not grown proportionately. This refutes the claim of the Industrial policies of 1996 as well as 2001, where it has been envisaged that promotion of large industries and mining activities would automatically help to generate more employment. This is also notwithstanding the fact that the quantity of mineral ores export increased by 56.65% between 1995-96 and 1999-2000, and the value of export increased by 64% during the same time. The export of iron ore in 1999-00 has increased by 49.2% over 1998-99. Even if the value of export has increased exponentially within 1999 – 2000, the proportion of employment has decreased in 1999-2000 by 8.98% over the previous year (Economic survey of Orissa, 2002-03).

The percentage distribution of factory workers to total workers in Orissa was also very low (1.79 %) in comparison to some of its neighboring states like Andhra Pradesh (13.52 %), West Bengal (8.70%), Madhya Pradesh (4.25%) and Bihar (2.72%) as on 1997-98 (CMIE, January 2001 and Annual Survey of Industries, CSO, 1997-98). Even it stands poorly in terms of its percentage of factory workers in comparison to some of the poorer states like Bihar and Rajasthan (2.83%). This indicates that the share of employment opportunities created by the Industries is very low compared to other states. On the other hand, since the industrial base of the state is predominantly natural resources based, they have acquired vast amount of forest as well as revenue lands. Industry and mines together account for nearly 40% of total conversion of forest land for non-forestry purposes.

Since 55% of the villages in the state are forest fringe villages (Source: policy and operational issue in Bamboo sector in Orissa, D. Mohanty, Aranya Bhaban, Govt. of Orissa), and a considerable proportion of population are dependent on common property resources, acquisition of vast amount of forest lands and forests for industries affect their livelihood adversely.

Small Scale Industries

1. Priorities set for Small Scale Industries through Industrial Policies and Planning

The small-scale enterprises are important determinants of progress and growth in a primarily agrarian economy. Successive Industrial policy resolution adopted by various governments have emphasized on establishment of small-scale industries for encouraging wider capital formation, create wider employment opportunities and even dispersal of industrial growth through out the state. The five-year plans for small enterprises provided importance to development of ancillary industries and downstream industries, establishment of industrial complexes, regular survey and removal of regional imbalances. As per the Industrial Backwardness, Districts were divided in to three zones namely A, B and C. Some of the backward Tribal Districts like Kalahandi, Deogarh, Malkangiri, Nwarangpur, etc. were included in zone A, while some of the slightly better among the Tribal districts like Mayurbhanj, Sundergarh, etc were included in zone B. Zone C contained more advanced coastal Districts like Cuttack, Khurda, Ganjam, Dhenkanal and Anugul. Many incentives were declared for these zones in the Industrial policies depending upon their level of backwardness. The main aim was to bring down the regional imbalances existing among different districts and to address the issues of high level of poverty and unemployment existing in Tribal Districts of south and North.

2. ***Performance of the Small Scale Industries against the priorities set by Government***

The performance of small scale Industries in the state was good compared to other states in 1980s owing to the priority given to this sector during this decade. The state performed remarkably well during 1979-90 in the country and ranked first in the sector of small scale Industries. This becomes obvious from the growth achieved during 1989-90, as the annual growth rate of investment during that time was 48.57%, and that of employment was 22.73 %(Directorate of Industries, Cuttack). But the performance in 1990s of the small enterprises started declining as the attention of the policies started getting focused on large industries and mining ventures. Besides, the Industrial policy of 2001, specifically mentioned the focus of the state for promoting mega Industrial projects. During 1996-97, the annual growth rate declined to merely 6.71%, growth rate in investment came down to 15.41% and average annual growth rate stood at 5.39 % (Directorate of Industries and Economic survey of Orissa, 1997-98).

3. ***Perpetuation of Regional Disparities in the promotion of Small Scale Industries***

The very focus of the Industrial policies of reducing the regional diversity akin to promotion of small sector enterprises has however failed miserably. Tribal dominated districts of Northern and southern regions having high incidence of poverty (Nearly 65% and 68% respectively, State Development Report, NSDP) have not received the kind of preference and attention they are ought to receive in the overall plan of promotion of small scale Industries. It is a irony that the dynamics of planned development has rendered some of the more natural resource endowed Districts in to poor and Industrially backward regions .The data of performance of small enterprises have revealed that some of the more Industrially backward Tribal Districts put in zone A in the Industrial policies (Gujarat, Nwarangpur, Sonepur, Malkangiri, Deogarh, Kalahandi, Phulbani, Nawapara, Boudh) for receiving special emphasis, have fared badly in terms of number of new SSI units set up, Total capital Investment and Employment generated . Their share has remained only 9.54% in the establishments of new units, 6.15% in overall capital investment and 9.75% in total employment generated during 1998-99(Analysis done from data of Economic Survey of Orissa, 200-01). Where as the more industrially developed Zone C (Cuttack, Khurda, Ganjam, Jajpur, Anugul, Dhenkanal, Sambalpur, Jharsuguda, Bargarh, Balasore etc) has a share of 50.75%, 60.77% and 49.55% in terms of number units set up, investment and employment generated during the same year. This trend has been maintained through out the decades of 80s and 90s apart from the data of three financial years (1997-2000) given below in tabulated form. More industrially developed Districts of Cuttack, Khurda and Ganjam have accounted for nearly 23% of new SSI unit's setup and 45% of total investment in 1998-99. Even these three districts accounted for 34.45% of total loan disbursed for SSIs from Orissa State Financial Corporation (Economic Survey of Orissa, 200-01) during the same year. This trend of disparity in the level of support provided by the promotional institutions contradicts the successive industrial policies of 90s, where the industrially backward Districts have been identified for special support. The thin share of these Tribal Districts in the growth of SSIs and corresponding employment opportunities in the absence of any alternative source of employment generation, have retained their heavy dependence on primary sectors like agriculture and forestry. It is observed that some of the poor Tribal undivided Districts namely Phulbani, Mayurbhanj, Kalahandi, Koraput and Bolangir have very high degree of dependence on primary sector occupation (Around 80%, 1991 census). But declining performance of primary sectors (Agriculture and forestry) over the last two decades and shrinkage of income from these sectors for over all share in NSDP, has also reduced the

relative income of people from these sectors. In the context of this scenario, polarization of small scale industries in few developed districts of the state has deprived the more backward and poverty stricken districts to avail the benefits given through successive policies. This has also helped widening the existing disparities between different regions of the state.

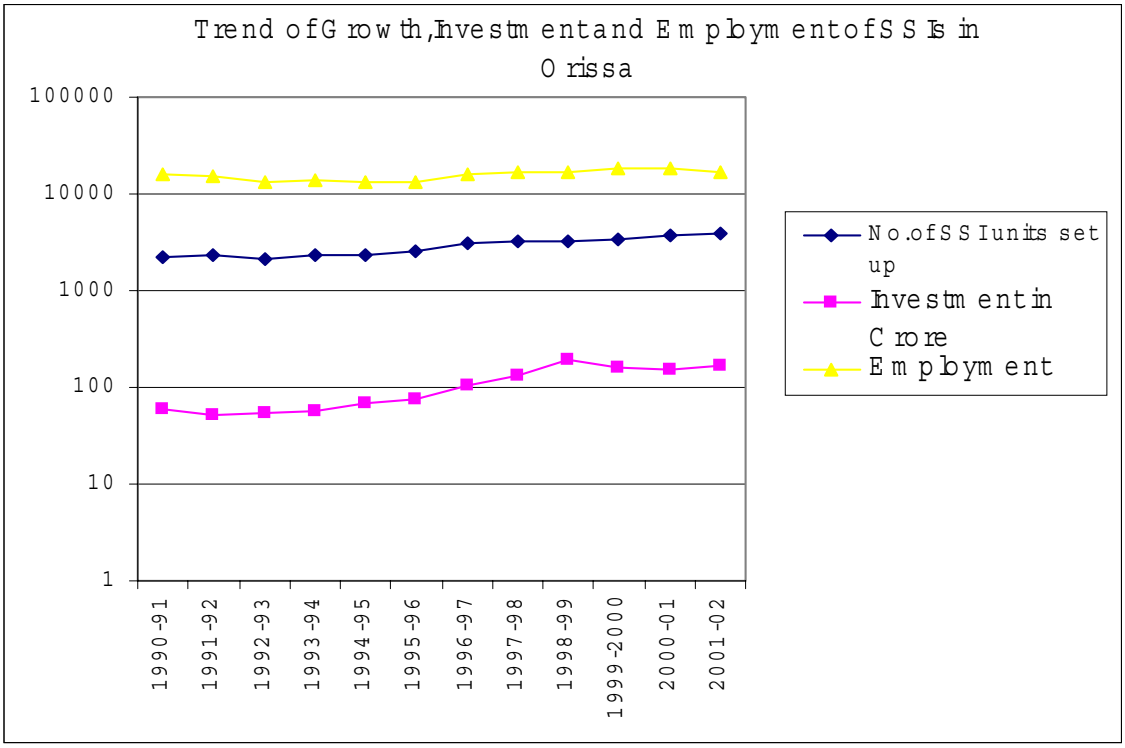
Table 9: Status of New units, Investment and Employment in Small Scale Industries

Sl No	Year	Total No. of SSIs gone into production	Investment in crores	Employment Generated
1	By the end of 7th plan period (1989-90)	35867	437.26	265332
2	1990-91	2249	61	15657
3	1991-92	2333	52.03	15545
4	1992-93	2117	55	13344
5	1993-94	2311	56.21	13807
6	1994-95	2327	68.08	13096
7	1995-96	2507	74.82	13019
8	1996-97	3098	104.53	15629
9	1997-98	3186	134.09	16716
10	1998-99	3184	190.06	16775
11	1999-2000	3473	162.94	18608
12	2000-01	3676	153.18	18115
13	2001-02	3919	165.23	16582

(Source: Economic Survey of Orissa, 1999-2000, 2001-02, 2002-03 and other issues)

The trend of growth, investment and employment pattern in the small enterprises sector shows that after having a robust growth during 1980s, the investment as well as employment started sliding down during the early part of 90s. The growth pattern in the decade of 90s has also not been uniform, which has brought down the employment opportunities. But when compared with the investment in large and medium industries the employment generated per unit of investment is 10 times higher in the small-scale sector.

Graph IV – Trend of Growth, Investment and Employment of SSIs in Orissa



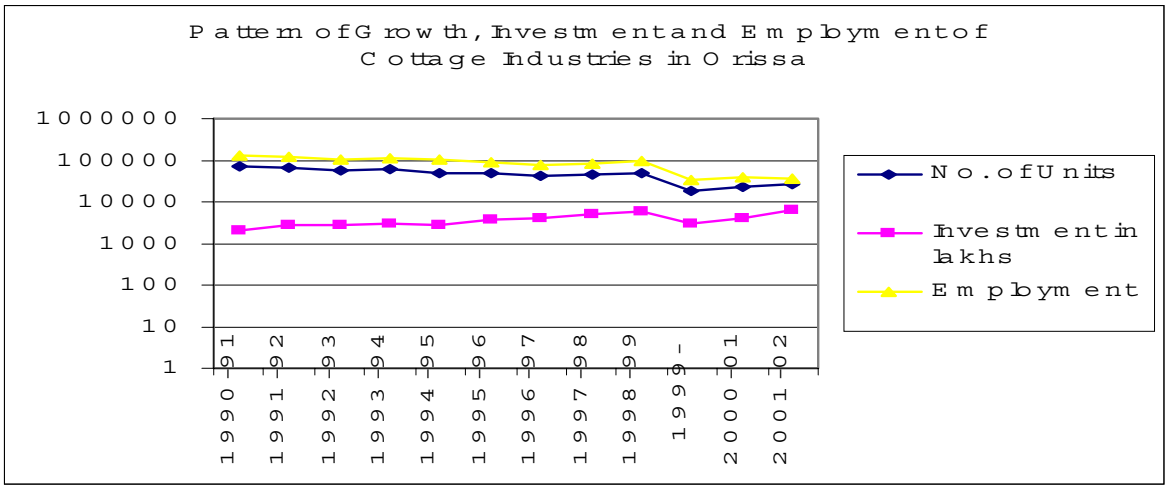
The status of Cottage Industries

The cottage industries have a lot of potential for providing employment, income generation, and economic growth in the state of Orissa. Some of the important traditional cottage industry products like terracotta, appliqué works, stone craving, brass –metal goods etc have already proved their excellence in the domestic and international market. These industries have been providing employment to large number of rural artisans in the state. The Orissa State Cooperative Handicrafts Corporation is engaged in strengthening the production base, expanding marketing opportunities, promoting export etc. Some of the important cottage industries in the state are Textile and Handloom Industries, Khadi and Village Industries, Coir Industries, Salt Industries etc. It is apparent from the table mentioned below that; cottage industries have provided maximum employment among all categories of industries. The trend of employment however has started declining in the cottage industries sector from 1993-94 on wards. Many factors are responsible for this decline including the marketing of products, lack of proper strategy to revive the promotional institutions, lack of priority in the successive Industrial policies formulated after the economic policy of liberalization etc.

Table 10: Status of Growth, Investment and Employment in Cottage Industries

Year	No. of Units gone into production	Investment in Lakhs	Employment Generated
By the end of Seventh plan period	**1008716**	**20995.69**	**1693205**
Year	**No. of Units Established**	**Investment in Lakhs**	**Employment Generated**
1990-91	68746	2070.15	128218
1991-92	64153	2675.67	119788
1992-93	54940	2751.72	100506
1993-94	59779	3098.31	114527
1994-95	50289	2853.66	104185
1995-96	48161	3616.86	91484
1996-97	41478	3925.68	76516
1997-98	45602	4886.16	82941
1998-99	50607	5869	92822
1999-2000	18370	2956.73	32835
2000-01	22431	4064.68	37641
2001-02	26072	6142.44	36833

Graph V – Pattern of Growth, Investment and Employment of Cottage Industries in Orissa



Thus, the two major sectors, which would have provided a large base for employment, are visibly on the decline that speaks about the crisis ahead in the near future. Investments in mining and mega industries, which have a very small potential to generate employment, may not be the answer our planners would be looking for.

The Mining Sector

Industrialization in Orissa has been treated almost synonymous with mining. Gorumahisani and Badampahada the two major mines that the Tata sourced their raw materials from for their Jamshedpur steel plant since 1934 are located in Orissa. Since that era of the Tatas when they had a major share in the private sector, industrialization in Orissa has been equated with mining. Today, it is the mining sector in Orissa, which has attracted the attention of the International finance capital, and it is the mining sector, which the debt-ridden state of Orissa is presenting and projecting to the world outside as a guarantee to stand against future borrowing. Therefore, it is important to understand this sector with more care.

1. *Comparative Status of Mineral Reserves in Orissa*

As it is clear from the table below Orissa has got rich mineral deposits in certain geographical locations and there are diversities in those deposits. While 98.39 percent of the country's chromites are located in Orissa, about 60 percent of the country's bauxite reserve is also found in Orissa. Orissa also has got the country's 27.99 percent of iron ore and 24.11 percent coal deposits, 91.84 percent of nickel ore, 28.41 percent of manganese and 30.83 percent of mineral sand which have occupied important places in the mineral map of the country.

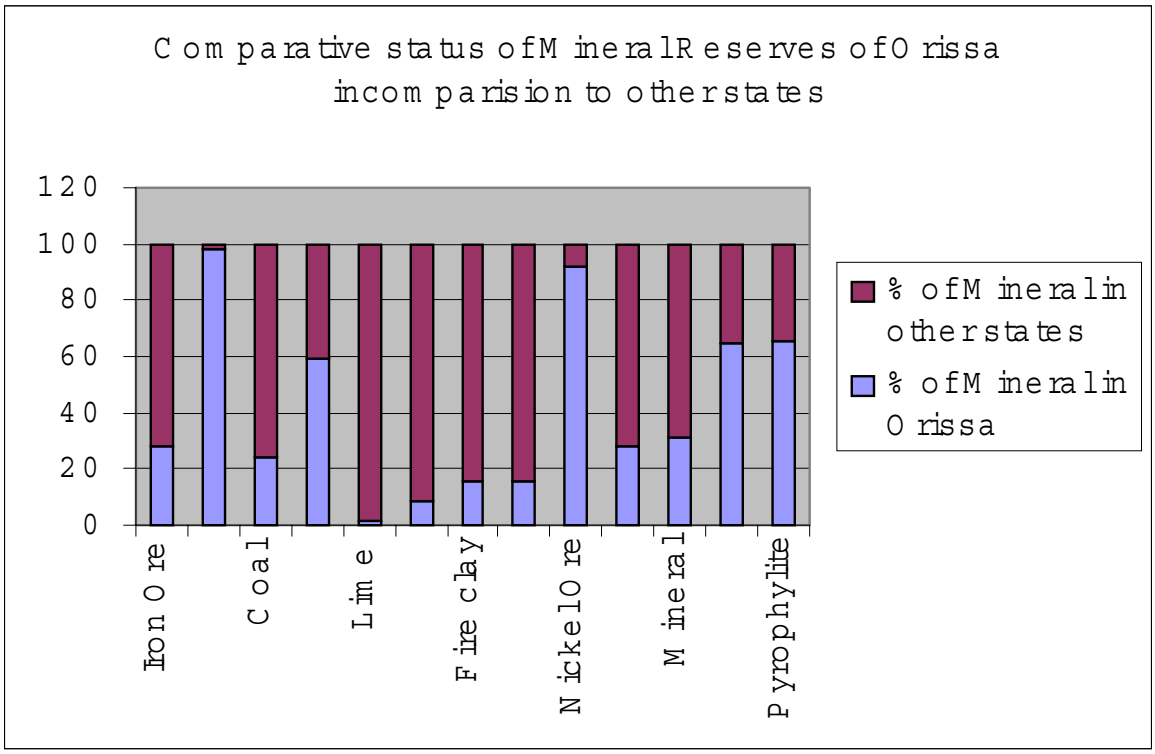
Table 11: Mineral Reserves in Orissa

Mineral/Ore	Reserves in Orissa	Reserves in India	% of Mineral in Orissa	% of Mineral in other states
Iron Ore	3567	12745	27.99	72.01
Chromite	183	186	98.39	1.61
Coal	51571	213905	24.11	75.89
Bauxite	1733	2911	59.53	40.47
Lime Stone	1032	76446	1.35	98.65
Dolomite	434	4967	8.74	91.26
Fire clay	108	696	15.52	84.48
China clay	157	986	15.92	84.08
Nickel Ore	270	294	91.84	8.16
Manganese	50	176	28.41	71.59

Mineral Sand	82	266	30.83	69.17
Graphite	2	3.1	64.52	35.48
Pyrophylite	8.6	13.2	65.15	34.85

(Source: Economic Survey of Orissa, 2000-01, 2002-03 and other issues)

Graph VI – Comparative status of Mineral Reserves of Orissa in comparison to other states



The presence of economically important minerals in Orissa has raised not only expectations in the minds of the investors in the mining sector; it also has raised the aspirations of the employment-seeking people belonging to the middle class. As per the calculations made by the Orissa government a foreign direct investment of Rs.250000 crores is expected to come in to the mining and industry sector in the coming 4 to 5 years. Therefore, it would be worthwhile to examine the investments made in the past and the corresponding employment they have generated over the period of time.

The table below would suggest that the claims made by policy makers that an increase in investment in the mining sector would lead to an increase in employment is not supported by history and facts. Rather, as figures in the table indicates, with every increase in mineral production, there is a decline in the percentage of employment generated compared to almost

every previous year. In the reference year 1991-92 when the increase in the production of minerals was 19.73 % over the previous year the number of employment generated in the sector was 68886, while in the subsequent year in 1992-93 with an annual increase of mineral production by 7.15% the number of employment generated came down to 66927 an increase by –2.84 percent. Ten years later when the mineral production in the state went up from 37200000 tons in 1991-92 to 74900000 tons in 2001-02 the number of employment generated has come down to 45135 only. Therefore, the theory that industrialization through increase in mineral production would generate employment does not seem to hold ground. Rather, the reverse seems to be happening particularly in the mining sector.

Table 12: Pattern of Growth in Mineral Production and Employment generated in Orissa

Sl no	Year	Production in Lakh Tones	% increase of production Over Previous year	Employment Generated	Percentage increase of employment
1	1991-92	372	19.73%	68886	1.90%
2	1992-93	398.6	7.15%	66927	-2.84%
3	1993-94	405.8	1.81%	65951	-1.45%
4	1994-95	438.6	8.08%	64037	-2.90%
5	1995-96	511.2	16.55%	65147	1.73%
6	1996-97	569.1	11.33%	61192	-6.07%
7	1997-98	628.1	10.37%	59326	-3.04%
8	1998-99	634.3	0.99%	58448	-1.47%
9	1999-2000	644.87	1.66%	53209	-8.98%
10	2000-01	689.24	6.88%	52937	-0.5111%
11	2001-02	749.79	8.79%	45135	-14.80%

(Source: Economic Survey of Orissa, 1999-2000, 2000-01, 2002-2003 and other issues)

The production of minerals and ores in the state has increased by 26.13% between 1995-96 and 1999-00. The production of coal and metallic minerals has increased by 33.31% and 22.03% respectively while that of non-metallic minerals has decreased by 14.52% over this period. However, an increase in mineral production does not seem to be significantly adding to the non-tax revenue of the state either-, as it is evident from the following table. While in the year 1996-97 total revenues earned from minerals was 56.78 percent of the total non-tax

revenue of the state and in the year 1997-98 59.23 percent, the share of revenues from minerals to the total non tax revenue of the state started declining from the year 1998-99 when the share came down to 49.08 percent of the total non-tax revenue of the state. In the year the same was further reduced to 36.21 percent of the total non-tax revenue of the state.

Table 13: Revenue Receipt from Mining Sector and Total Own Non-Tax Revenue of Orissa

Year	Revenue receipts			Total non-tax revenue of the State	Percentage of col.4 to col.5
	Cess on mining royalties	Mining royalties and other revenue from minerals	Total		
1	**2**	**3**	**4**	**5**	**6**
1995-96	11.05	241.26	256.31	628.20	40.16
1996-97	4.20	269.39	273.59	481.80	56.78
1997-98	3.19	317.15	320.34	540.80	59.23
1998-99	1.91	314.05	315.96	643.70	49.08
1999-00	0.38	320.08	320.46	885.10	36.21

(Source: Directorate of Mines, Govt. of Orissa.)

An analysis of the industrial policies of Orissa, therefore, would reveal that the industrial policies of the state of Orissa have been mines and mineral centric. If minerals are removed from the scene, Orissa will not find a place in the industrial map of the country. On the contrary, 3/4th of the population in the state depend on agriculture and on a fast declining forest resources. The process of industrialization followed in the past as well at present doesn't seem to be focusing on agriculture and forest. This raises a fundamental question, if the process of industrialization in the state has little to do with resources, which provide life and livelihood support to 3/4t of the state's population, who is going to get benefits out of it?

Minerals are exhaustible resource. The next question, therefore, would be, will Orissa cease to be an industrial state after 50 years or earlier than that when all the mines in the state would get exhausted? This question would lead further to many more questions concerning the future of the mine areas and industrial townships and the people living in those areas.

As it has been shown with government data above that mega scale industries and mines have not been able to generate either employment or significant financial resources for the state. Rather as statistics suggest that employment in this sector has come down the more investments and more mineral production

Rather the impact of industrial and mining activities on the poor particularly in the scheduled areas of the country has been quite disastrous**.** Majority of these projects are located mostly in the Tribal dominated scheduled areas of the state. These development projects have invariably led to acquisition of vast amount of forest and revenue land of the tribals, displacement of original inhabitants (In totality 81176 families from 1446 villages have been affected in Orissa, Depriving the Underprivileged for development, ISED Balaji Pandey) and disintegration of their life and culture which they have built up over generations. The meager compensation paid to the displaced wherever they have a record of rights does not seem to be of any help to them. Their rights over the lands they have been cultivating for generations does not get them any compensation if they can't show any proof of records. Large scale displacement of Tribal and rural population in these areas have led to dismantling of their traditional production systems, scattering of kinship groups, alienation from their agricultural land and common property resources. Numbers of studies by Anthropologists and Sociologists earlier have demonstrated the devastating effect of Industrialization and mining on the native Tribal population. It has been observed that the process of Industrialization apart from displacing people and disintegrating their livelihood systems, also causes host of problems like prostitution and undesirable cultural infiltration (L.P., Vidyarthi, 1970), land alienation, Socio-cultural alienation (Das and Banarjee, 1962), Increase in crime, Immoral trafficking, Disruption in traditional occupational pattern (Social Processes in the Industrialization of Rourkela, B.K.Roy-Burman, 1961) etc. In some cases these marginalized section have faced the wrath of double displacement, once by the HAL in Sunabeda and for the second time by Upper Kolab Multi purpose dam project. Dispossession of agricultural, homestead and forest lands has disrupted the relationship of large section of Tribal and peasants with their land, thereby throwing the agrarian and Socio-Economic structure into disarray. As majority of Tribal and Rural population are dependent on primary sectors (Around 85% in KBK Districts and 71% of total population is dependent on agriculture in the state, Census of India) for their major source of livelihood, disruption in their traditional occupational structure has led to further marginalization. Unfortunately, the state doesn't have a uniform rehabilitation policy for all development projects yet except the rehabilitation

policy of 1994 by the Water Resources Department (Officially enlisted vide resolution no. 25296 dated august 27th, Government of Orissa). In the absence of any uniform policy, different Development projects have followed different norms while providing compensation and rehabilitation measures. Even Public sector enterprises like National Aluminum Company have followed two different sets of rehabilitation policy in two different projects at Damanjodi and Talcher (Development, Displacement and Rehabilitation in Tribal areas, Walter Fernaneds and S. A. Raj, 1992). Some of the mega dam projects like Hirakud that displaced 22149 families from 249 villages (Irrigation in Orissa, A.K Dalua, 1991) paid only compensation to persons having record of rights. Large number of forest dwellers, food gatherers, daily wage labourers, Forest land cultivators lost their precious source of livelihood as neither their usufruct rights was recognized nor were they paid any compensation. This trend was followed in other dam projects like Salandi and Balimela projects until the mass resistance forced the Government to adopt a rehabilitation policy for the first time in 1977(Government of Orissa). The rehabilitation policies framed for Irrigation project prior to that didn't provide land for land compensation.

Lack of any uniform rehabilitation policy as well as any law at the state Government level led to implementation of inconsistent and Adhoc project specific rehabilitation measures by many Industrial and mining projects. It is important to note here that many other states like Maharastra, Gujarat, and Rajasthan have enacted their own law to deal with such massive displacement resulting from development projects. Orissa has more rural population than these states as well as more poverty level, yet the state doesn't have a uniform policy to deal with such massive displacement of poor rural population. This has led to formulation of rehabilitation policy as per the suitability of different project holders and subsequent denial of rights of the displaced. In the wake of the policy of liberalization at the center, the state government has also been emphasizing on promotion of large and mega projects in its industrial policies (The Industrial policy of 1992, 1996 and 2001, Source; IPICOL).

Table 14: Magnitude of displacement due to various development projects in Orissa (1950-1993)

Sl. No.	Type of project	No of villages displaced/ affected	No of families displaced/ affected	Total land acquired (in hectare)
1	Mines	79	3143	2427.03
2	Industries	113	10704	21963
3	Thermal power	73	2426	3155.31
4	Irrigation and hydel power (dams)	1181	64903	595918.6
	Total	**1446**	**81176**	**623463.94**

(Source: A.K Dalua, Irrigation Department, 1993; Fernandes, Reddy 1993)

Several studies on scale of land acquisition and displacement have been conducted on Rourkela steel plant. Establishment of this large-scale industrial project led to acquisition of 7917.84 Hectare of land for the main factory site at Rourkela and mining site at Barsuan (Balaji Pandey). The project affected 2444 families, out of which 50.37% were Tribal and 30 % were from Scheduled Castes (Mohapatra). But some figures put forth by other studies reveal different figures (The RSP displaced 4251 families from 30 villages and acquired 13185 hectare, I.U.B Reddy). Likewise the NALCO at Damanjodi displaced 610 families completely from 15 villages and 178 families partly. Around 43% of the totally displaced 78% of the partly displaced families were from Scheduled Tribe families (Muthayya, 1984). This shows that high proportion of families of displaced from these backward areas belonged to the most marginalized section of population. As it has already been mentioned that the rehabilitation policies adopted by both the projects was woefully short of expectation, large number of backward and marginalized section of population lost their major source of livelihood.

Analysis of the micro situation vis-à-vis mining policies in the context of two Keonjhar Villages

The analysis of mining and industrial policies of the state does reveal that there are contradictions not only within the policy framework; there are also contradictions between

declared policies and practices we witness in the mining and industry front. Therefore, it is important to see the realities on ground just to get an idea about the nature and magnitude of the actual happenings. Undivided Koraput in the south and Keonjhar in the north stand out today as outstanding examples of Orissa's march towards development and progress symbolized by uninterrupted media reports of huge foreign direct investments and entry of competing MNCs and Indian corporate giants to exploit the rich mineral deposits in these districts. Keonjhar has been in the news recently because of MOUs signed between the Orissa state and some corporate giants for launching of some private sector sponge and iron industrial projects. The district of Keonjhar lies on the Northwestern part of Orissa. The district, which has been divided into 3 sub-divisions and 13 community development blocks has a total population of 15,61,990(out of which 13,48,967 live in rural areas where as 2,13,023 reside in urban areas) 44.50 percent of them being Scheduled Tribes and 11.60 percent of them being Scheduled Castes (census of 2001). This district has got rich deposits of minerals like Iron ore, Manganese ore, Chromite, Quartzite, Bauxite, Gold, Pyrophillite and Limestone. Considering the history of mining in Keonjhar and the possibility it has created for further mining in the district because of the big influx of mining companies in to it a decision was taken to visit some of the familiar villages in Keonjhar to get glimpses of the micro situation vis-a-vis mining.

Study Sites

The studied villages fall into Banspal Block which has 19 Gram Panchayats (GP) within it. Kumundi is a small GP having four revenue villages namely, *Uppar Jaagar*, *Tala Jaagar*, *Urmunda* and *Kumundi*. These villages surround Gandhamardan hill which hosts one of the biggest iron ore deposits in the State (9250 million tones with average grade of 63% Fe). We selected Uppar Jagar of Kumundi GP and Uppar Kansari of Kansari GP for the purpose of our study. These villages are located close to Suakathi (15 KM from Keonjhar the district headquarters) where the Iron ore mines and operational offices of the Orissa Mining Corporation are located.

Situations in the Villages in Brief*:*

1. **Uppar Jagar**

Uppar Jagar is a revenue village under Kumundi GP comprising of four hamlets such as Rugdi *Sahi* or *Dehuri Sahi(with 42 households from the Bhuiyan tribe), Kadabandh Sahi(with 25 Bhuiyan families), Jamdalia Sahi(with 13 households of the same tribe)* and *Matikhani Sahi(with 10 households of the Munda tribe)*. Due to the mining operations of OMC another hamlet has come close to the other four, which is known as H*atinga Sahi*. This is a colony of mining workers (160 families), who have migrated from different districts like Jagatsinghpur, Bhadrak, Cuttack, Balasore, Kendrapada and places like Joda and Badbil in the district of Keonjhar. This colony was established by OMC by displacing the locals of Uppar Jaagar village. Here it may be clarified that though *Hatinga Sahi* lies within the revenue boundary of the village but for all practical purposes it is managed by the OMC. Thus the village has 90 households (excluding the mining colony) a majority of them being from the Bhuiyan tribe.

In Uppar Jaagar the landholding size is very small which fails to provide sustenance throughout the year. During the entire agriculture season they hardly get employment for 30-60 days. For the rest of the period in a year they depend on wage labour in the non-farm sector. Here the main sources of occupation are mining labour and construction labour.

After a series of interaction with the villagers, based on the understanding gathered in the process, the village was divided into three major groups: (a) The Landless Poor, who include 3 Bhuinayan households and 2 Munda households having no land, no bullocks and who draw their earnings from wage employment only; (b) The Relatively Less Poor, who include 75 Bhuinyan and 8 Munda households who have in their possession on an average one fourth acre of record land and a maximum of 2 acres of encroached land while depending on wage employment partially; and (c) The Better Off category who include only 2 Bhuinyan households who have 5 acres of land, possess she-buffalo(about 40 nos)and goats and have enough food to manage through out the year. But the reality is that 88 out of a total of 90 households in Uppar Jagar don't get food to meet their requirements for the whole year.

2. **Uppar Kainsari**

Uppar Kainsari is also a tribal village having only 41 households. The major tribes found are Bhuinya(24 households) and Munda (17 households).The average size of landholding is 1 acre. There are only 2 households having land about 2½ acres each. Due to low landholdings wage labour i.e. outside casual labour and labour work in the mining site forms a major source of earning for the people of this village. This situation was not there a few years back. . Earlier the villagers in both Uppar Jagar and Uppar Kainsari used to depend on forest for their livelihood for about 8months in a year and the rest 4 months managed on cultivation. But due to continuous degradation of forest because of increasing mining activities the dependence on forest has been reduced to just 2 to 3 months in a year. Even access to forest has been badly affected because more and more forests have been trapped in the mines. This has resulted in loss of livelihood for the tribals in one hand; while on the other it has forced them to approach the miners for wage employment with little scope to think about its consequence.

The Mining Ventures

The major mining company operating in Suakathi area is Orissa Mining Corporation (OMC). It started mining operation in the year 1964. Besides, there are also a few private companies operating in the area. Some of them are Basudev Agarwal Iron Mines, Narain Sons Co., M/s Keonjhar Minerals Anjar Phrephyllite Mine, Bhatiadih Phrephyllite Mine and M/s DM Minerals Pvt. Ltd. (Medinapur).

All these companies are engaged in exploiting iron ore and phrephyllite. Together they have taken 2481.85 hectares of land out of which 81.34 % are forestland. For details see table below.

Table 15: Brief information about OMC and other private mining companies operating in the area is presented as below:

Name of the Company	**Total area** ***(in hectares)***	**Forest area** ***(in hectares)***	**Mineral Ore**
OMC Block A Block B	 618.576 1590.86733	 501.7472 1268.5609	Iron
Gandhamardan Sponge Iron	100.1632	82.2009	Iron

Pvt. Ltd.			
The forest area is mostly Khesra forest and a small portion is Reserve Forest			
Urmunda Iron mines (Basudev Agarwal)	82.03	11.07	Iron
Laupada Iron mines (Narain Sons)	141.36	35.8648	Iron
M/s Keonjhar Minerals Anjar Phrephyllite Mines	72.52	27.2960	Phrephyllite
Bhaliadih Phyrephyllite Mines	94.29	40.3234	Phrephyllite
M/s D.M. Minerals Pvt. Ltd.	142.04	51.6138	Phrephyllite
Forest type - Khesra Forest			
Total area	**2481.85**	**2018.68 (81.34% of total area)**	

As is observed from the above table a significant portion of the area leased out is forestland (about 81.34% of the total mining area). These forestlands are classified as *Khesra* forest and Proposed Reserve Forest, but a small portion comes under Reserve Forest category. Besides, private lands, recorded and unrecorded, from the three villages has also been acquired by OMC and the private companies.

But the land acquisition process as per the perception of the tribals has been anti tribal since their land has been forcibly taken away without giving any compensation and the list seems to be too long. Though these tribals have been cultivating those lands under their possession for generations their rights over land have been ignored since the government itself has failed to settle their claims over those lands. A look at the table given below will give a fair idea about it. At least 83.5 acres of land are under the forcible occupation of the mining companies.

Table 16: Names Of Persons Affected By "Forcible Land Acquisition" By OMC And Other Mine Owners.

Sl No.	Name	Village	Area (appx.)
1	Madhu Naik	Uppar Jagar	4.5 Acre
2	Kanda Senapati	Uppar Jagar	2.5 Acre

3	Hagaru Dehury	Uppar Jagar	2.5 Acre
4	Nidhi Dehury	Uppar Jagar	2.5 Acre
5	Shukla Dehury	Uppar Jagar	1.5 Acre
6	Damo Naik	Uppar Jagar	2 Acre
7	Dhira Senapati	Uppar Jagar	4.5 Acre
8	Kumbhakar Senapati	Uppar Jagar	2 Acre
9	Hadiani Dehury	Uppar Jagar	2 Acre
10	Suna Senapati	Uppar Jagar	1.5 Acre
11	Suktu Behera	Uppar Jagar	2.5 Acre
12	Sajan Dehury	Uppar Jagar	2 Acre
13	Hadu Senapati	Uppar Jagar	2 Acre
14	Baisnab Dehury	Uppar Jagar	2.5 Acre
15	Roa Behera	Uppar Kainsari	1 Acre
16	Gamha Munda	Uppar Kainsari	0.5 Acre
17	Ghasi Pradhan	Uppar Kainsari	1 Acre
18	Dhulia Behera	Uppar Kainsari	1.5 Acre
19	Sankha Dehury	Uppar Kainsari	1.5 Acre
20	Narada Karjee	Uppar Kainsari	1.5 Acre
21	Dina Dehury	Uppar Kainsari	1 Acre
22	Sukutu Behera	Uppar Kainsari	1.5 Acre
23	Kalu Behera	Uppar Kainsari	2 Acre
24	Sunia Dehury	Uppar Kainsari	1.5 Acre
25	Anama Dehury	Uppar Kainsari	1.5 Acre
26	Mohanty Dehury	Uppar Kainsari	1.5 Acre
27	Mahura Behera	Uppar Kainsari	1 Acre
28	Bania Naik	Uppar Kainsari	1.5 Acre
29	Binda Naik	Uppar Kainsari	2 Acre
30	Daktor Munda	Uppar Kainsari	1.5 Acre
31	Udia Munda	Uppar Kainsari	1.5 Acre
32	Bir Singh Munda	Uppar Kainsari	2.5 Acre
33	Samaru Munda	Uppar Kainsari	1.5 Acre
34	Samaru Behera	Uppar Kainsari	1 Acre

Sl No.	Name	Village	Area (appx.)
35	Janu Behera	Uppar Kainsari	1.5 Acre
36	Banu Behera	Uppar Kainsari	1.5 Acre
37	Kindu Munda	Uppar Kainsari	0.5 Acre
38	Bira Munda	Uppar Kainsari	1.5 Acre
39	Mahali Munda	Uppar Kainsari	2 Acre
40	Lalmohan Munda	Uppar Kainsari	1 Acre
41	Suna Munda	Uppar Kainsari	2.5 Acre
42	Samura Munda	Uppar Kainsari	1.5 Acre
43	Bidhu Munda	Uppar Kainsari	2.5 Acre
44	Bhaiga Munda	Uppar Kainsari	2 Acre
45	Jamalu Munda	Uppar Kainsari	1.5 Acre
46	Kunti Naik	Uppar Kainsari	1.5 Acre
47	Budhu Munda	Uppar Kainsari	1 Acre

The case of forcible occupation of tribal land has not happened only in those cases where the tribals don't have a legal title, rather there have been cases where one does find tribals having patta land also helplessly witnessing the forcible occupation of their land by a mining company. Since the last 37 years OMC has occupied 2 acres of patta lands under the possession of two families in the village. Out of these 1 acre was held jointly by four brothers, Hadu Senapati, Bulu Senapati, Tila Senapati and Dhira Senapati and rest 1 acre was owned by Bira Senapati. No compensation has been paid to them so far.

Similarly some of the households in *Uppara Kainsari* village reported that they have lost their recorded agricultural lands measuring about 5 ½ acres to the mining company and that they also have not been compensated. Besides this OMC seems to have taken about 15 acres of non-recorded lands from this village. Villagers also complained that the Grazing land meant for the cattle also has not been spared since the mining company occupied and converted that common property to a private pond.

The un-surveyed and un-settled Common Lands had provided the tribals an important source of Subsistence. Prior to the mining operation that was first started by OMC in the area in the year 1964 lands were cultivated by the local people and a variety of crops were grown such

as, paddy, different types of pulses etc. Cattle grazed freely on the hilly forest tract. The villagers and their domestic animals used to enjoy the water of a perennial stream flowing from the nearest Gandhamardan hill. The stream water also irrigated agricultural fields of a few villagers. The villagers have been deprived of access to this natural water source ever since the mining operation started in the area and more particularly after the construction of residential quarters for the mining workers by OMC in *Uppara Jaagar* village. The stream water used by the tribals for centuries was diverted and stored for supplying to the workers colony.

The team discovered the following hard facts while studying the villages:

- The subsistence economy of the tribals have been badly affected because of their loss of land, reducing access to commons and lack of alternative sources of income excepting occasional wage employment in the mines
- The non-recognition of land titles over lands traditionally cultivated by tribals in a post-mining situation seems to be creating a process of pauperization of a majority of tribals which is being watched by the State and non-State actors with apathy and indifference.
- The tribals are loosing control over every natural resource over which they have been exercising complete control in a pre-mining situation. Their land are lost for ever, their forests providing them Non Timber Forest Produces (NTFP) are destroyed because of mining and even their main life line the water sources are also cut off.
- The tribals used to produce along with Paddy,a number of pulses and maize. They used to face hardships only in the marketing front. In the post mining situation markets did not expand rather the main base of their production- the land disappeared. As reported to the team, affected people have tried to convince the authorities of OMC and the district administration about their plight but with out any success.
- Their second source of subsistence was forest. But in the post mining situation forests have been either disappeared or have been captured by the mining companies. Thus, forest produces, which used to be the second best source of tribal livelihood, have also declined. Tribals are not used to any other form of livelihood.
- There was sufficient water for cultivation as well as for drinking purposes in the pre-mining stage. Now they are under the control of the mining companies.

- The common properties owned by the villagers are also lost in the process to the beneficiaries of mining in the area. The mango trees in the common land, which once used to feed the distressed tribals in the months of summer, are now under the complete control of the mining workers colony.
- For the affected tribals, the insensitivity of the administration of the pre-mining area reaches a stage of complete callousness in the post-mining period. The villagers have approached the administration several times for the resolution of outstanding issues such as compensation for lost lands, recovery of lands under forcible occupation of mining companies such as the OMC, restoration of sources of water to the villages but without any success. According to the perception of the villagers, the government has abandoned the area after handing it over to the mining companies.
- The tribal villagers of the mining villages seemed to have alienated themselves from the Panchayat Raj Institutions (PRIs), which have lost their relevance to the plight of tribals and are operating more as power centers benefiting the beneficiaries of mining in the area.
- The fact that most of the land in this part of the state is also un-surveyed and there has not been any settlement of rights over lands traditionally cultivated by the tribals, they have been the worst sufferers particularly when external intervention has taken place in their natural resource base.
- As seen in *Uppara Jaagar* village, the land where the mining worker's colony is established initially was the homestead land of the people of *Uppara Jaagar* (70 families were staying in the year 1964). These were unrecorded lands. Till now the landowners have not been compensated for their lands.
- The area, which was once free from pollution with vast stretch of green vegetation, is now known for its level of pollution because of increasing mining activities and non-stop movement of vehicles in the area.
- The tribals never migrated as there was sufficient source of livelihood from their surrounding but the post – mining situation is compelling them to leave the area in search of work.
- There not has been any increase in the level of education and health. Rather, mining related health hazards have increased with out any increase in the access to health resources, alleged most of the villagers.

- To live with mining has become a reality for the tribals of Uppar Jagar and Uppar Kainsari immaterial of the price they have been paying for that.
- During the pre-mining period 23 number of perennial water sources emerged from the Gandhamardan Mountain which supplied water for irrigation as well as drinking purposes to the area out of which eleven numbers as mentioned below used to cover the Uppara Jagar and Upper Kainsari villagewhich included the following:
    1. Goda Majuni
    2. Dansa Jhari
    3. Ghagara Pani
    4. Brahamani Jhara and Sargadai Dalki
    5. Raktiya Chua
    6. Samaka Pani
    7. Pacheri Pani

    (All flowing across Uppar Jagar)

    1. Sarpani
    2. Pani Ammaa.
    3. Kachal Pani
    4. Ghagara Pani

    (Flowing across Uppar Kainsari)

Out of these eleven three have already disappeared because of mining operations more particularly because of dynamite blasting. They are as follows:

1. Raktiya Chua
2. Samaka Pani
3. Dansa Jhari

The fourth water-stream Ghagara Pani has been blocked and diverted to OMC Staff Quarters.

- Once upon a time Gandhamardan was known for its rich forest cover and its bio-diversities. But after mining operation the same has been devastated due to heavy blasting day by day and the forest produce also became limited for the local use. The forest of Keonjhar district traditionally has been the habitation center of elephants. However, with the increase in mining activities in the area huge forest areas are getting cleared at a fast rate (as

shown in the above section) resulting in a shortage of fodder for the wild animals. This has created a new crisis for the tribals of Keonjhar. Like in the studied areas 2018.68 hectares of forestlands has been cleared for non-forestry purpose i.e. mining thus has reduced the forest available for wild life.

- This development has led to increasing instances of elephant attacks on these villages. Destruction of crops by elephants has become a common and regular phenomenon in the area. The villagers narrated that in the last 3-4 years this problem has become acute and they relate this to the disappearance of forest due to increasing mining activities. The villagers find themselves in a helpless situation due to the lengthy procedure involved in getting any compensation for the crop loss and houses destructed by wild elephants. Again the compensation amount is also very low. The villagers also complained about the apathetic attitude of the govt. officials on such issues.

In 2001 the attack of elephants reached unbearable height. Thus in September 2001, 5000 tribals from different villages of the district, as a mark of protest against the apathetic attitude of the officials staged a rally in the district headquarter town Keonjhar. The inapt handling of the situation by the district administration created a law and order problem.

The team met a group of villagers in the RI office who had come to report about their houses damaged by wild elephants to get compensation. There were a few in the group whose houses were destructed last year. Since their houses were not damaged in this year their applications were not accepted. Again, the problem doesn't end here. It was said that many similar incidents have not been recorded in the govt. register and in such a situation people cannot claim for compensation as per government norms.

Revenue History and Settlements

Prior to mining operation in the area in 1964, the government did not carry out land survey. This has been a major reason that ownership over land of most tribals has not been recognized though they have been cultivating those lands for generations. Reveneue officials don’t have any answer to offer for this kind of predicament that the tribals have been made to face with in an independent and democratic country.

The first revenue settlement in Keonjhar district (then a Princely State) was made only in the year 1803. Subsequent settlements were then made in the years 1858 and 1888 but these were not regular. Seed capacity was used for estimation of area. This kind of adhoc arrangement provided lot of scope to the intermediary forces and the King to exploit the tribals. As a result the district witnessed a major Bhuinyan rebellion in 1892. In the year 1899 a more elaborate survey settlement operation was initiated and this was completed in 1913-14. But this settlement also did not cover the entire district. The survey did not cover the areas inhabited by the *Bhuinyans* and *Juangs (i*n Keonjhar two important primitive tribes are found *Bhuiyan* and *Juang* and the regions dominated by these tribes were respectively named as *Bhuiyan* and *Juang pirs*). The last settlement operations commenced in 1911 and continued till 1914. This was a regular chain and plane table survey. Assessment was made under the Bengal Tenancy Act. The term of the 1911-14 settlements was fixed as 20 years but on its expiry revision settlement was not taken up.

As a result of this in the district there are large number of tribal cultivators who are enjoying occupancy rights over lands (as a customary right) but do not have ownership right over the same. This gives an opportunity to the state as well as private mining companies to displace them from their land without paying any compensation. As a result the people loose their access and control over natural resources.

Gram Panchayats and Decentralization of Power*: The Ground Realities*

Panchayat's Extension to Scheduled Area (PESA) Act came into force 1996 in India and in 1997 in the state of Orissa, after which more than seven years have lapsed but the Panchayati Raj Institution (PRI) representatives and the communities are yet to internalize the concept of Panchayati-raj in its true sense. In the studied GPs very few adult citizens were aware about the acts of devolution of power. Even the knowledge of PRI representatives are limited to implementation of civil works like construction/repairing of roads, selection of beneficiaries for government sponsored programmes and schemes like Indira Awas, Annapurna Yojana, Widow/Old age pension and so on. They were found to be unaware of their rights over resources and also are not sure about dealing with them within the provisions of PESA Act. Again, most of them are not able to articulate their fundamental issues. In one such instance, in a meeting with the OMC, the Panchayati-raj representatives of Suakathi Gram Panchayat asked the company to donate Rs. 6 lakh for construction of a college at Suakathi, electrifying the main road passing through Suakathi Panchayat headquarters and providing them with

piped water supply but did not raise issues like forcible occupation of private agricultural lands by the mining companies or the compensation issue. Here, it must be added that the inability (knowingly or unknowingly) of PRI representatives to raise fundamental issues is intelligently used by the OMC to get clearance from Ministry of Environment & Forests, Govt. of India to continue their operations in the area.

Functioning of Gram Sabha/Palli Sabha

According to the government norms it is mandatory to organise Gram Sabha twice in a year i.e. on January 26th and August 15th to discuss the issues of the villages. But these meetings are organized in a short notice. Thus there is hardly any attendance/participation of people in the meetings. On the other hand a few dominant people take decisions and they organize the signature of the absentees on plain paper to meet the legal requirement. Infact, the discussions in the Palli Sabha and Gram Sabha at the best confined to selection of beneficiaries for different government schemes/programmes such as Indira awas, old age/widow pension, distribution of ration cards, road construction & repairing but hardly there is any discussion on livelihood issues. This clearly brings out the nature of functioning of GramSabha/Palli Sabha.

These grass root democratic institutions are elite dominated and controlled by upper castes Hindus. They are hand in glove with the administration and the companies.

Present Situation

Thirty-seven years have passed since OMC started carrying out mining in the area but the villagers have not received a single penny as compensation from the company. The enthusiasm among the tribals to get an employment during the initial period has vanished. At present there are 151 permanent office staff, 750 mining workers and 300 daily wage contract workers working with OMC. A significant numbers of mining workers are from outside the area. This has limited the scope for the locals to depend on mining even for wage work.

On the other hand the Welfare Schemes implemented by OMC do not benefit the local people nor it addresses their livelihood issues. The financial assistance extended by OMC to different govt. and private organizations is generally utilised in organising sports, tournaments, science exhibition, construction of temple, tube wells in the college premise (Excerpts from the report of OMC). There are provisions of drinking water facilities, health

care, housing, education and other facilities. However, these benefits are extended only to the mining workers and are not meant for the people of the local area.

Observations and Conclusions

The introduction of mining activity has not benefited the local inhabitants in Uppar Jagar and Uppar Kainsari. Because of mining operations people have lost their control and access over natural resources. The PESA Act, which was supposed to empower the tribals by recognizing their control and access over natural resources, has not been of any help. The grass root democracy is controlled and orchestrated by the dominant class and the company for their benefit. The participation of women in this process is nominal. The Panchayati raj system is not able to address the real problem of the people such as alienation of tribals from natural resources as it is evident in Uppar Jagar and Uppar Kainsari study. In this context when we confronted people with the question that how they visualize the future, what would be the situation after the mineral deposit is exhausted and the company moves away from the area, they had no answers. In fact the villagers don't know if mining in the area has at all contributed to the development of their village economy.

Whatever situations we come across in this small area of Keonjhar does not speak only about the crisis of existence (physical as well as cultural) confronted by the original inhabitants of a particular place after mining interventions, it does also indicate the health of the process of industrialization in Orissa and implications it has got for the lives and livelihoods of at least 8 million tribal population of the state. The rights of Orissa's most original citizens over the resources, which have sustained their life, culture and ecology, seems to have been threatened by the mining and industrial policies of the state. The situation may not improve in the future since the state in Orissa has accelerated the pace of mineral centric industrialization with the sole objective of inviting foreign direct investment.

The necessity of reviewing the costs at which such mineral based industries are being promoted and how they affect the people of the state is not taken seriously. As it is clear from our analysis based on government data available to us particularly on the trend of growth of employment in large and medium industries in the state within last twelve years, and the conflicts with local population arising out of growing encroachment by Industries and mines

over their natural resources base, it looks necessary for the state to review its policies as well as priorities for the industrial and mining sector.

Though the performance of small scale Industries has been good at least till the 1980s compared to other states, the policies for the sector were not followed consistently and the political will to put emphasis on the potential of the sector for employment generation was missing. This is not withstanding the fact that the state of Orissa ranked first in the sector of small scale Industries in 1979-80 in the country. This becomes more obvious from the growth achieved during 1989-90, as the annual growth rate of investment during that time was 48.57%, and that of employment was 22.73 %(Directorate of Industries, Cuttack). But the performance in 1990s of the small enterprises started declining. This decline coincided with an increase in the priorities given to the big and large-scale mines centric industrialization polices induced by the LPG regime. The Industrial policy of 2001, specifically mentioned the focus of the state for promoting mega Industrial projects.

The trend of growth, investment and employment pattern in the small enterprises sector shows that after having a robust growth during 1980s, the investment as well as employment started sliding down during the early part of 90s. The growth pattern in the decade of 90s has also not been uniform, which has brought down the employment opportunities. But when compared with the investment in large and medium industries the employment generated per unit of investment is 10 times higher in the small-scale sector.

Similarly, cottage industries have provided maximum employment among all categories of industries. The trend of employment however has started declining in the cottage industries sector from 1993-94 on wards. No industrial policy of the state formulated in the period following the year 1990 has indeed focused on the large potential this sector has got for reviving the rural economy and ensuring employment for a large section of the rural poor.

The growth of small and cottage industries have left out the tribal areas completely at any point of time forcing the already vulnerable communities to survive on primary sectors like agriculture and forestry, which are in turn getting increasingly affected because of the dumping of mega development projects in these areas.

Though industrialization in Orissa has been equated with un controlled expansion of mining activities, the data presented here from government sources indicate that an increase in mineral production does not necessarily lead to an increase in employment generation or in the generation of substantial growth of revenue receipts for the state. In the reference year 1991-92 when the increase in the production of minerals was 19.73 % over the previous year the number of employment generated in the sector was 68886, while in the subsequent year in 1992-93 with an annual increase of mineral production by 7.15% the number of employment generated came down to 66927 an increase by –2.84 percent. Ten years later when the mineral production in the state went up from 37200000 tons in 1991-92 to 74900000 tons in 2001-02 the number of employment generated has come down to 45135 only. Therefore, the theory that industrialization through increase in mineral production would generate employment does not seem to hold ground. Rather, the reverse seems to be happening particularly in the mining sector.

The quantity of mineral ores export increased by 56.65% between 1995-96 and 1999-2000 , and the value of export increased by 64% during the same time. The export of iron ore in 1999-00 has increased by 49.2% over 1998-99. Even if the value of export has increased exponentially within 1999 – 2000, the proportion of employment has decreased in 1999-2000 by 8.98% over the previous year.

The production of minerals and ores in the state has increased by 26.13% between 1995-96 and 1999-00. The production of coal and metallic minerals has increased by 33.31% and 22.03% respectively while that of non-metallic minerals has decreased by 14.52% over this period. However, an increase in mineral production does not seem to be significantly adding to the non-tax revenue of the state either. While in the year 1996-97 total revenues earned from minerals was 56.78 percent of the total non-tax revenue of the state and in the year 1997-98 59.23 percent, the share of revenues from minerals to the total non tax revenue of the state started declining from the year 1998-99 when the share came down to 49.08 percent of the total non-tax revenue of the state. In the year the same was further reduced to 36.21 percent of the total non-tax revenue of the state

Mining royalty is an important source of non-tax revenue in Orissa, though it seems to be on the decline, It contributes a major share to State’s about 16% of State’s own tax and non-tax revenue taken together. In this context it may be mentioned here that Orissa’s share in the

mineral deposits of the country is 26% in Iron ore, 32% in Manganese, 98% in Chromite, 71% in Bauxite, 23% in Coal, 32% in Graphite and 25% in Dolomite. This abundant deposit of mineral resources, however, does not contribute much to the State's revenues. Because the royalty on these minerals are not fixed at the expected levels and secondly the state government has been prevented by the court to impose any cess. The value addition to the minerals for export need be done inside the state and taxation, in the shape of land tax on mineral bearing lands etc like that of West Bengal.

No uniform policy of rehabilitation has been followed in case of industrial projects in the state. The large industrial projects have come up in mostly backward areas and they have acquired vast amount of revenue and forest lands-a great majority of forest lands have been under cultivation by the tribal communities for generations over which they don't enjoy any formal rights. The process of acquisition of land in medium and smaller industries has not been as much as the large industries and the mega projects. Since, the industrial policies followed since the 1990s have focused only on mega projects, this would mean more and more alienation of tribals from their land and forest resources. Tribals as traditional owners of forestland will have to forgo even cash compensation since they can't produce proof of legal titles over those lands.

Therefore, the process of industrialization initiated from the perspectives of the miners has been primarily based on exploitation of the mineral reserves of the state do not seem to be in harmony with sustenance of naturals resources such as land, water and forest, nor is it willing to recognize the needs and aspiration of the most vulnerable sections of our society who have been depending on the same resources for their livelihood.

It has to be debated and resolved that mining is not industrialization and industrialization and development can't be taken to be conveying the same meaning. In a state where about 87 percent of its population depend on agriculture and forest resources, mining and industrialization based on mining can't be answer people would be looking for. Therefore, development actions have to be based on the real livelihood requirements of the majority of people, the natural resources base that have the potential to sustain ably support those livelihood requirements and the ecological balance that is required to ensure continuity of life in all forms on earth.

Annexures

Annexure-1: Forest Categories and associated major tree species found in Orissa

Forest Type	Percentage to total forest area	Major Species
Northern Tropical Semi-evergreen	15%	Arjun (Terminalia arjuna), Mango (Mangifera indica), Makanda Kendu (Diospyrous embryopteris), Canes (calamus) etc.
Northern Tropical Moist Deciduous	35%	Sal (Shorea robusta), Asan(Terminalia tomentosa), Bija(Pterosarpus marsupium) etc.
Southern Tropical Dry Deciduous	35%	Sal (Shorea robusta), Asan(Terminalia tomentosa), Dhaura(Anogeissus latifolia), Kendu (Diospyrous melanoxylon), Kurum (Adina cardifolia) etc.
Tidal Swampy	5%	Guan (Exceccaria agallocha), Hental (Phoenix paludosa), Rai (Dillenia pentagyna) etc.

Annexure – 2:

Area under Reserved Forests in Orissa during Pre-independence and Post-independence Period

1884: 691.26 sq kms of Reserved Forest and 921.68 sq kms of Protected Forest

1888-89: 968.29 sq kms of Reserved Forest and 849.19 sq kms of Protected Forest

1891-92: 1027.83 sq kms of Reserved Forest and 789.65 sq kms of Protected Forest

1912: 1918.45 sq kms of Reserved Forest and 2767.64 sq. kms of Protected Forest *(New Province of Bihar & Orissa carved out of the Bengal Presidency)*

1936: 3627.19 sq kms of Reserved Forest and 1509.39 sq. kms of Protected Forest (*New province of Orissa*)

1948: 3614.24 sq kms of Reserved Forest, 541.10 sq kms of Demarcated Protected Forest and 3285.44 sq kms of Reserved lands (Prior to merger of ex-princely states)

1948: 26322.36 sq kms of Reserved Forest (including Demarcated Protected Forest and Reserved lands)[After merger of princely states]

1952: 10378.5 sq. kms under Reserved Forest and Reserved lands

1960-61: 28184.92 sq. kms of area demarcated as Reserved Forest and proposed for reservation (Increase in area due to addition of ex-zamindary forests)

1962: 28620.1 sq. kms under Reserved Forest and Reserved lands

1972: 34626.1 sq. kms under Reserved Forest and Reserved lands

1982: 40560 sq. kms under Reserved Forest and Reserved lands

1993: 41393.5 sq. kms under Reserved Forest and Reserved lands

Annexure - 3

History of Forest Administration and Forest Management in Orissa: A Timeline

1891	Two divisions created: Angul and Puri
1936	Separate State of Orissa. 9 forest divisions where forests were reserved under Indian Forest Act, 1927 & Madras Forest Act, 1882
1936	First recorded history of CFM: Lapanga village in Sambalpur district.
1948	Forest of Ex-Princely States brought under Forest Department of Orissa. Orissa forests brought under Indian Forest Act, 1927 by passing of order by Orissa state.
1957-59	Constitution of Forest Enquiry Committee to promote a uniform forest policy for the State.
1960s	Launching of community development programmes and formation of youth clubs... Youth clubs took up forest protection as an activity Movement for setting up schools - forests are being protected to meet the expenses of the school.
1965	Orissa boundary
1966	Orissa Land Consolidation Act, which specified reserved various categories of land including Gramya Jungle.
1970	"Silent Valley" movement for the forest protection in degraded forests (even RFs) started by the villages, e.g. Nayagarh.
1970s	Forest protection evolved in Puri (Nayagarh), Bolangir, Sambalpur districts.
1970-75	NSS rallies for the conservation and environmental protection.
1972	Orissa Forest Act 1972 came into force.
1974	Report of National Commission on Agriculture emphasizing forestry production.
1980s	Spreading of CFM in Nayagarh, Bolangir, Mayurbhanj and Dhenkanal districts.
1983-84	Social Forestry project was implemented in the State.
1984 -87	Anti BALCO (Save Gandhamardan) movement increased the consciousness in people in Western Orissa to protect forest.
1985	Orissa Village Forest Rules - legal recognition of VFCs and declaration of village forests.

1985	Forest and environment conservation movements gained momentum in Orissa, forest protection by many villages in different parts of Orissa.
1987-88	National Environmental Awareness Campaign sensitized the people on protection of environment and forest.
1988	First state Government resolution to involve communities in protection of Reserve Forests.
1990	Government resolution to involve communities in protection of Protected Forests.
1990	Green felling banned all over the State.
1993	Comprehensive resolution on JFM and formation of Van Samrakhyana Samitis (VSSs).
1994	JFM extended to Social Forestry. The village woodlots and the block plantations brought under the JFM.
1996	Another JFM resolution to give more rights to communities by declaring forests under joint management as village forests.
1997	Process initiated at the Government level to draft a new resolution on JFM.
1998	Massive campaign by the FD to form VSS.
2000	Orissa Forest (Amendment) Bill formulated by the State.
2000	New NTFP Policy of the State conferring rights of procurement and trading on 67 items to Gram Panchayats.
2001	State level NTFP price fixation committee dissolved, power to fix up prices given to PRIs

Annexure - 4

Important events relating to KL trade

1932 A book titled: "Roupya Patra" (Silver leaf) was published by Late Mr. Sarangadhar Dash a socialist leader which highlighted the potential of KL for poverty elevation and limited control of government.

Pre 1947 Contractors / Traders were given long term lease to collect the leaf from all over the ex-states areas including the (Private lands). Tenants did not even have rights over the KL produced from their own land.

Post-1947 With the merger of the Ex-States when the people were given the rights over the leaves produced over their own lands many petty traders came forward to trade in KL.

1949 GoO declared KL as essential commodity, under the Essential Commodities Act, 1947 and passed "Kendu Leaves (Control and Distribution) Order, 1949". The right of tenants over KL was restored. The immediate effect was the emergence of a large number of petty traders, who entered into the contacts with the individual tenants for the collection of KL.

Only license holders were allowed to trade.

- Total revenue collection - Rs. 13,79,670.
- 50% of the revenue to be shared with the Village Panchayat.

1954 Total revenue collection - Rs. 28,06,989.

1957 Enquiry committee set up to critically examine various aspects of KL trade which suggested following recommendations:

- Control on KL ought to be continued.
- Rate of payment for collection of KL from government and private lands should be fixed by 'District Advisory Committee'.

- Recruitment of adequate supervisory staff to ensure the wages of the pluckers is revised, in line with the rate fixation.
- Total revenue collection Rs. 68,01628.

1961 Enactment of the Orissa KL (Control of Trade) Act 1961. The thrust of this policy was on regulating the KL trade through a state monopoly.

1964 KL workers Union initiated by the Viswanath Pandit (as the President and the main architect) together with Mr. Braja Kishor Das (as the General Secretary).

1969 KL was purchased from the pluckers at the rate 1 paisa per 50 leaves.

1973 KL trade was nationalised and brought under the monopoly control of the State. KL Wing was created and was entrusted with the responsibilities for production and processing of KL.

1973 Purchasing rate was increased by reducing the number of leaves from 50 to 40 per paisa.

1975 Price of KL was increased (30 leaves/paisa).

1977-78 The then Chif Minister Mr. Nilamani Routray tried giving greater remuneration to the KL pluckers by increasing the proice of leaves from 1 paisa per 30 leaves to 1 paisa per 20 leaves but failed to do so.

1989 Hike in purchase price and pluckers were paid 1 paisa against 4 leaves.

1992 Number of leaves per paisa was reduced to 2.

1996 Purchase rate was increased by reducing the number of leaves per paisa to 1.6

1998 Number of leaves per paisa was reduced to 1.5.

1999	Price of KL was increased (1.3 leaves/paisa).
2001	For the first time bush cutters were considered as semi-skilled labourers.
2001	Purchase price per leaf was increased to 1 paisa.

Annexure - 5

Kendu Leaf trade in last 15 years: Share of State vs. the share of KL pluckers

Year	Total sale value (in crore rupees)	Total Renumeration to KL pluckers (in crore	Total profits to State Govt. (in crore rupees)	Share of KL Pluckers vs. total turnover (%)	Share of KL pluckers as a percentage of the	Share of State Govt. vs. total turnover(%)	Ratio between Remuneration to KL Pluckers
1984-85	30.18	5.12	13.98	16.97%	36.65%	46.32%	1:2.73
1985-86	36.73	6.45	18.24	17.55%	35.34%	49.66%	1:2.83
1986-87	39.16	7.11	19.02	18.15%	37.36%	48.57%	1:2.68
1987-88	43.19	8.16	19.44	18.89%	41.97%	45.01%	1:2.38
1988-89	55.79	8.35	31.96	14.97%	26.13%	57.23%	1:3.83
1989-90	153.27	12.23	122.79	7.98%	9.96%	80.11%	1:10.04
1990-91	111.81	17.39	72.63	15.55%	23.94%	64.96%	1:4.18
1991-92	137.78	26.41	75.98	19.17%	34.76%	55.15%	1:2.88
1992-93	137.17	28.57	70.04	20.83%	40.79%	51.06%	1:2.45
1993-94	146.51	27.47	82.52	18.75%	33.29%	56.32%	1:3.00
1994-95	142.16	24.39	66.19	17.16%	36.85%	46.56%	1:2.71
1995-96	117.73	32.62	47.61	27.71%	68.52%	40.44%	1:1.46
1996-97	138.94	32.51	61.13	23.40%	53.18%	44.0%	1:1.88
1997-98	152.00	27.21	46.52	17.90%	58.49%	30.61%	1:1.71
1998-99	140.00	39.48	65.40	28.20%	60.37%	46.71%	1:1.66
1999-			74.50				
2000-			55.00				
2001-02			69.00				

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