ORISSA ECONOMIC JOURNAL

- Changing character of Welfare Economics.
- Impact of Developmental Schemes on Tribal life & economy in Orissa.

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ORISSA ECONOMIC JOURNAL

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SECRETARY'S REPORT

Mr. President, Chairman, Organising Committee, Chief Guest Dr. D. C. Mishra, Guest of Honour Dr. K. M. Patnaik, Fellow delegates, Ladies and Gentlemen !

I have great pleasure in welcoming you all to this 18th Annual Conference of the Orissa Economics Association. We are grateful to our Chief Guest for having readily accepted our invitation to inaugurate the Conference. We are confident that his presence in our midst will enrich the deliberations of the Conference.

I am highly obliged to Dr. Debendra Chandra Mishra, Dr. Baidyanath Misra and Dr. K. M. Patnaik to have covered such a long distance and come over here to be with us during the Conference.

The Orissa Economics Association was formed in the year 1968 by the eminent economists of the state. Since then it has been nurished by the blessings, good-will and tender-care of the teachers, administrators and planners of our state.

Ours is the oldest regional academic Association in the whole of the country.

The Association was formed with the following objectives; as laid down in its constitution.

1 to meet from time to time and discuss various economic problems,

2 to improve the standard of teaching of economics in various colleges of the state and

3. to stimulate research in the subject with special reference to the economic problems of Orissa.

It is gratifying to note that since its inception, the Association has been making humble attempts to discuss various economic issues with special reference to Orissa and find out appropriate solutions pertaining to these problems.

It has not been possible to realise all of its objectives on account of paucity of resources. However, the Association in its annual Conferences has focussed sufficient light on a large number of subjects such as Agriculture, Industry, Transport, Taxation, Government Expenditure, Developmental Planning, Centre-State Financial Relations and a host of other related issues. The research papers on different aspects of these topics have been recorded in the journals of the Association.

I am happy to mention that both the Life and Annual membership of the Association has been on the increase. The total membership has exceeded 250 in the current year.

Two issues of Orissa Economics Journal for the year 1983-84 has been published and distributed among the members. During the year 1983.84 a seminar on Rural Development was organised with the financial assistance from the Govt. of Orissa. Research papers based on emperical survey on E.R.R.P. and I.R.D. projects were presented in it

Economics is not only an apparatus of mind but a technique of thinking that would help policy prescriptions to improve the economic well being of the masses. The subject is not only light bearing but also fruit bearing. With this background we have decided to discuss the changing character of welfare economics in one of the subject sessions of the Conference.

Orissa has a tribal population of nearly 60 lakhs. Their percentage to the total population of the State is 22.43. There are as many as 62 tribal communities existing at various stages of economic development. Though similar development schemes are in operation throughout the country, the tribal areas pose altogether different problems in the process of implementation. While the non-tribals are aware of the benefits of the developmental projects of the Govt, a good deal of motivation is of paramount need for bringing the tribals within the fold of such schemes. Locational disadvantages, level of literarcy, peculiar traditions of such communities require different strategies for the implementation of developmental schemes in tribal areas. Impact of developmental schemes on tribal life and economy in Orissa in another topic for discussion in the Conference which may throw sufficient light on manifold issues concerning the impact of development in tribal areas.

Besides these subject sessions, two symposia—Industrialisation and Seventh Five Year Plan in Orissa—will also be held during the Conference.

One of the long-felt needs of the Association has been the establishment of Research Institute under the auspices of the Association. Such an Institute would cater to the needs of researchers to undertake research projects on various economic issues. A committee has been formed by the Association with the eminent economists of the state as members to negotiate with the Government for such Institute. Response of I.C.S.S.R., New Delhi in this respect is encouraging.

The Association received a sum of Rs. 4,000/- from the State Youth Welfare Board and Rs. 3,000/- from the Director, Higher Education, Orissa as grant-in-aid for the year 1983-84. I take this opportunity to express my sincere thanks to Dr. Baidyanath Misra, the Secretary, Youth Welfare Board and Dr. K. M. Patnaik, Director, Higher Education for the generosity shown.

I am thankful to the Chairman, Advisory Committee, Chairman, Reception Committee, members of the different committees of the Conference, members of the staff and student volunteers for the untiring efforts to organise the Conference in the befitting manner.

I am thankful to the President for his able and active guidance in all matters of the Association. Thanks are due to Dr. G. N. Das for getting the accounts of this Association audited. I am thankful to all the members of the Executive Body of the Association for their active co-operation in all the activities of the Association and to you all, ladies and gentlemen for your patient hearing.

B. Nayak
Secretary

Chairman, Reception Committee,
Esteemed members of
the Orissa Economics Association,
Ladies and Gentlemen !

At the outset let me express my profound thanks to the members of the Association for kindly electing me as the President of the Association for the current year and giving me the honour of presiding over the XVIII Annual Conference.

I humbly crave your indulgence for sharing with me some of my thoughts on certain issues of development in the context of economic planning in the country.

The study of economic development has assumed enormous importance in recent times, specially during the post-second world war days. There is increasing awareness among the people of the developing countries regarding the need to alleviate their poverty and underdevelopment It has been rightly stated by economists that a study of poverty of nations has even more urgency than a study of the wealth of nations. Economic development is recognised to be a process by which the real national income of a country increases over a long period of time.[1] The process involves the use of scarce resources leading to secular changes in economic variables, e.g. employment and income etc.

Indian leaders like Gandhi and Nehru were committed to the establishment of a socialist society through planning, within a democratic frame work, long before India achieved independence. The leaders have tried to fulfil their pledge. We have experienced more than three decades of planning. We are out to accelerate the process of development in the face of serious hurdles. In my address I propose to analyse the development perspectives and the problems associated with it in two parts. In the first part I propose to analyse the economic aspects which have been determining the trend of development in the country. In the second part I shall try to analyse some of the non economic variables which have indirect and important bearing on the development process

The development objectives have been almost the same running through all the plans, e.g. higher rate of growth of National Income and per capita income, creation of employment opportunities, removal of

poverty and achieving social justice by reducing inequality of income and wealth distribution. A number of steps have been taken by Government from time to time with a view to making structural changes for achieving the objectives quickly. Actions like the elimination of feudal rule in the princely states, abolition of privy purses of the rulers, abolition of zamindary, nationalisation of insurance companies and the commercial banks, creation of public sector financial institutions and several other corporations to develop, promote, regulate and control industry, agriculture, trade and commerce, were some of the steps taken in the right direction, and provided the structural framework for development.

The emphasis was on achieving higher rates of growth in the shortest possible time. It was presumed that such an aggregate growth strategy would automatically lead to generation of employment opportunities and ensuring higher living standards for the poor. A high growth rate was sought to be achieved primarily through the expansion of large scale industries. Large scale industries along with transport & communications and power continued to get the highest priority in all the plans beginning with the second five year plan (see table 1). Consequently, the share of agriculture and irrigation was proportionately less.

Unstable growth rate :

Key annual growth rates, plan-wise, in respect of certain important indicators have been given in Table-2 The growth rates have been highly unstable Growth rates have fluctuated very widely in respect of national income, per capita income, agricultural production, and food grains production. In the year 1979.80 and 1982-83 the figures show negative growth rates. Growth rate of industrial production has varied from 1.4% in 1979-80 to 9% in 1961-66. On the other hand very high growth rates have been recorded in respect of All India consumer prices and the number of registered job seekers. There has been stable growth rate only in case of population growth, the average figures for 1950—1981 being more than 2%. These figures speak for themselves. It is ironical that after about 35 years of planning we have not been able to establish a stable growth path

Higher food production does not benefit the poor :

However, it is heartening to note in Table-2 that long term trends in the rates of growth of agricultural and industrial production and national income over 1950-1981 have been positive. The record production of

food grains of over 150 million tonnes in 1983-84 has dispelled the doubt regarding India's capacity to feed her growing population and the apprehension that food grains production was stagnating, if not decelerating [2] The success of Green Revolution in certain regions of the country has helped a lot in increasing food production, which has gone up progressively from about 55 million tonnes in 1950-61 to 150 million tonnes in 1983-84. This is the story of success in aggregate terms. But the presumption that aggregate growth would lead to decline of poverty ratio has not been materialised. In a poor country like India lack of food is the crude indicator of poverty, and the per capita net availability of food grains may be used as a proxy for the levels of living, provided of course the masses have adequate income to purchase [3] The production of foodgrains has increased in absolute terms, but unfortunately the per capita net availability of foodgrains has remained almost constant at 430 grams per day.[4]

The Planning Commission have admitted the fact that in spite of the long-term trend of growth of GDP of 3.5%, the number of people below the poverty line has increased significantly. The poor can benefit from increased food production either if they produce same as land owners or there is decline in prices, and they get employment and income to purchase.

From a recent study made by Prof. Dantwala regarding the size distribution of land holdings in some states, it has been established that while the number of operational holdings has increased by 8% to 24%, the operated areas has increased only by 1.5% or less indicating the growing pressure of population on land. The increase in small and marginal holdings on the other hand, is much larger 5% to 28% and 6% to 38% respectively The findings suggest increasing incidence of poverty in the agricultural sector, because the number of people owning and operating land has gradually declined. Even good harvest does not benefit the poor farmers having tiny plots of land. Those who did not own land had no occasion to benefit from the bumper crop indirectly because of the steep rise in the prices of foodgrains and other essential commodities over the period 1970-71 and 1983.[6] Thus the benefits of high foodgrains production have been confined to certain regions of the country and to the richer sections of the landowning community.

The progress of distribution of ceiling surplus land has been very slow for several reason. In Orissa for example, the slow progress has

been attributed to lack of up-to-date land records, correct estimates of ceiling surplus land, and litigations in courts [7] Implementation of land reform measures has been far from satisfactory. Big land owners have taken advantage of the legal lacunae to flout the provisions of law. Big estates are partitioned in the name of 'Benami' share holders, though in practice these are held as single units. Malcolm S. Adiseshiah has cited an interesting case of a major landlord and his descendent in a village Iruvelpattu in possession of more than half of the total land in the village over a period of 66 years. Different studies of the same village made in 1916, 1936, 1961 and 1982 revealed that the same landlord and his descendent had owned 350 acres, 354. 10 acres, 307 acres and 250 acres respectively of the total village land of 456 acres inspite of the ceiling law. [8]

Poverty Eradication Programmes :

The concept of poverty line assumed importance in the early 1970s both in academic discussions and plan formulation. Special programmes for eradication of poverty were launched as a frontal attack against poverty when the planners realised that the general process of growth was not meant to help the poor. A number of schemes are in operation for more than a decade to alleviate poverty, whether the poor belong to a target area, group or a family. They are being helped whether they are small and marginal farmers, landless agricultural labourers, Adivasis or Harijans. Our planners have also rightly recognised the fact that unemployment and poverty go together. Certain employment oriented schemes, e.g. Food for Work and National Rural Employment Programme have been launched for providing wage-employment to the poor during lean agricultural season. To tackle the problem of hard core of rural poverty directly through the generation of employment opportunities for the landless during the lean agricultural period, a special scheme known as the Rural Landless Employment Guarantee Programme has been in operation since 1983-84. Government of Orissa have been operating a scheme of their own, known as the Economic Rehabilitation of the Rural Poor within the framework of IRDP.

A few recent studies by academic bodies and individual researchers on poverty eradication programmes have revealed that the poor have not been benefited to the desired extent. The thrust of the schemes was the creation of income-yielding assets for the poor. But in many cases the poor were unable to earn substantial

income from the assets, either because the assets were consumed by the beneficiaries themselves, or the same were misappropriated by others or there was wrong direction of assistance.[9] Poverty ratio continues to be high. The affluent class of land owners have taken advantage of the support measures of Government in terms of finance, agricultural inputs and subsidies etc. channelised through the agencies of rural development.

Generation of productive employment :

From the Approach to the Seventh Plan it appears that the strategy of the Seventh Plan is expected to be generation of productive employment by way of growth of agricultural output, extension of rural employment programmes (NREP, RLEGP) and the promotion of rural industries.[10] Around 70% of our people live in villages and depend on agriculture. In Orissa they constitute around 80% of the population of the State. The task of providing employment to them is gigantic.

There is definite corelationship, between irrigation and agricultural productivity. But empirical studies prove that creation of irrigation potential alone do not lead to increased crop productivity. There are other important variables, e.g. water management, use of fertiliser, and improved technology, besides irrigation.

In the context of encouraging performance of foodgrains production and Green Revolution in some regions of the country, it is distressing to find that there is stagnation in yield rates in Orissa over the years. The study made by Dr Baidyanath Misra in respect of rice production in Orissa over the period of one decade from 1969-70 to 1980-81 reveals that the performance was poor compared to all India average The growth of rice production was not upto expectations due to irregular rainfall, lack of water management, low dose of fertiliser and low coverage under High Yielding Varieties. According to the study an important cause of the unfavaurable trend was the frequency of natural calamities. e. g. floods, droughts and cyclone, which occur almost in every alternate year in a severe form.[11] Since we have no control over nature, we must have to attach primary importance to irrigation, water management, modern technology and diversification of crops. Then only there can be higher productivity and greater employment.

The food-for-work and employment guarantee schemes directly help to reduce the dependence of the poorest section on forced commerce.

Such schemes should be encouraged and linked to public investment programmes like irrigation.[12] It is true that schemes arv laudable but their implementation is tardy due to the following.[13]

(i) Supply of foodgrains to states is irregular and inadequate.

(ii) Neither the employment provision nor asset creation are planned in keeping witn the development needs of the region,

iii) No attempt is made to diversify the activities to use local materials skill and manpower.

(iv) Sometimes the schemes are abandoned in incomplete stage or perish without maintenance.

(v) Corrupt practices of intermediaries and labour contractors.

Uneven sectoral growth of economy

We have earlier referred to the uneven growth rates during different plan periods and modest growth rates over the entire plan era. One disconcerting feature of the growth process is that the structure of the Indian economy got transformed in an unexpected pattern aggravating the problem of rural emplovment. Table-3 gives a picture of the growth of Gross Domestic product by industry of origin during the plan period, i. e 1950-51 to 1982-83. The primary sector, which contributed about 61% of the GDP at 1970-71 prices in 1950-51 got its share gradually reduced to 39.5% in 1982.83. But the contribution of the secondary sector increased from 14.5% in 1950-51 to only about 21.4% in 1982-83, The contribution of the tertiary sector increased from about 24% in 1950-51 to about 39% in 1982-83. In this case there has been a deviation from the pattern of structural change experienced in the western economies in their growth process. Those economies experienced first a shift from primary to secondary sector. A significant shift in favour of the tertiary sector was experienced by them only in their advanced stage of development. They could transfer their growing labour force from the primary to the secondary sector. In India this has not been possible because the secondary sector has not expanded fast enough to absorb the growing rural labour force. The fast expanding tertiary sector has been able to absorb skilled and trained labour force evidently of urban origin. The unskilled surplus rural labour force has been either struggling in the primary sector or has migrated to urban slum sector out of economic compulsion.[14]

Structural changes in Agriculture :

Economists have rightly emphasised on structural changes in agriculture for achieving higher results from improved technology. A number of land reform laws have been enacted by the state legislatures since independence providing revolutionary structural changes. Such legislations have met with wide regional variations in their operation, though their objectives were similar. This was due to divergent class relationship among different agrarian classes as between different regions due to historical circumstances. The Green Revolution of the mid 1960s, which brought prosperity for the western region of the country had limited impact in other areas. The marked differences in regional response to technological changes introduced during the period have been explained by Amit Bhaduri in terms of regional differences in agrarian class relationship.[15]

Permanent settlement in eastern India led to the complex system of subinfeudation of holdings and the creation of a chain of rent-receiving superior tenure holders having occupancy rights Many of them had significant involvement in 'forced commercial activities' and very little stake in agricultural development. Zamindary abolition benefited them and not the cultivating tenants.

On the other hand temporary settlement in western U P. and the Punjab had granted occupancy rights to peasant proprietors. The Zamindars had no right to evict or alienate the tenants as in case of permanent settlement. As a result a class of relatively well-off tenants had emerged below the Zamindars. Many of these 'occupancy tenants' of western U.P. and the 'peasant proprietors' of the Punjab belonged to the cultivating castes like the Jats, with direct involvement in agriculture.[16] Thus the same legal process of Zamindary abolition led to the consolidation of the position of the cultivating classes in western India who were engaged in productive accumulation of land. Such a class of prosperous farmers could take advantage of the Govt. support measures to usher in Green Revolution. This explains the regional variations in agricultural performance in the wake of Green Revolution.

Another Important factor retarding agricultural productivity in some eastern States, specially in Orissa, is the prevalence of the system of share-cropping in respect of a sizeable area under cultivation. Share croppers have no interest in agricultural productivity for obvious reasons.

Small farmers and Agricultural labourers ars helpless :

Whether it is Punjab or Orissa or any other state, the vast majority of poor and middle peasants are expropriated either due to, what Anit Bhaduri calls 'forced commerce' by professional money lenders or productive accumulation' by prosperous farmers. It is true that agriculture in western India is capable of generating greater income and providing larger employment opportunities. But empirical studies reveal that there is immiserisation of the small and indebted peasantry despite significant agricultural growth. Farm labourers are also being exploited through long term attachment and unfavourable labour contracts.[17] Another study in Haryana has also established that though the condition of labourers in the region is somewhat better than elsewhere, they are being exploited through indebtedness built into long-term wage and employment contracts. This was obviously due to capitalist farming.[18]

Small farmers must be helped to get out of the clutches of the professional or agriculturist money lenders by an imaginative policy of rural credit and marketing. The lending policy of banks and other financing agencies should be modified in such a way that the small farmers get accommodation in spite of poor collaterals. This is no doubt the social banking commitment in the context of development. At the same time the Reserve Bank of India is perfectly justified when it insists on the commercial viability of banks, specially in matters of lending and recovery of agricultural loans to avoid over-dues and bad debt. There is an under current of conflict between the commercial policy of banks and the sociopolitical demands on the functioning of banks. The Reserve Bank and the Govt should reconcile this apparent conflict in the interest of the beneficiaries as well as the banks.

Industrial Sector :

Now coming to the industrial sector, we notice the same uneven growth performance over the years as is revealed in Table-2, though the long-term growth of 5.7% during 1950-1981 appears to be satisfactory. But the performance could be better. The reserve of productivity in the form of idle capacity in our industries, is not being utilised properly due to several constraints and lack of planning and co-ordination. Industries have been started without ensuring power supply and development of key infrastructures like coal, cement, steel, transport and communication. As a result they have become mutual bottlenecks for each other. In Orissa a number of metallurgical industries based on minerals are coming

up. These industries, whose principal raw material is electricity, depend mostly on hydroelectricity. As a result they have to face closure for a good part of year when the water level in the project reservoirs go down. Such a situation creates problems for other ancillary and subsidiary industries and upsets our export planning also. Orissa has rich deposits of coal, which could be utilised to start thermal power stations to maintain productivity in industries. The importance of transport, communication and ports cannot be over emphasized in this context. Paradeep port should be developed with railway communication links to its hinterland in Orissa and the adjoining states, so that it helps in the industrial expansion of the area and is helped in that process.

Industrial growth will certainly lead to the growth of GDP. But the pertinent question is whether the same leads to generation of employment and income. Modern large scale industries are capital-intensive in nature. We cannot expect greater employment We have to plan for small scale and cottage industries. Here comes the question of symbiosis between agriculture and industries so that each helps the other in its growth, and there is generation of employment and income in both the sectors. This could also release the pressure of population on land.

The situation we face in India is typical of the problem of agricultural development in all the countries of South and South East Asia excepting Japan. This is due to historical reasons of colonial domination. A number of studies made in this regard reveal that Japan could succeed in exploiting the potentialities in agriculture and achieving higher agricultural productivity with greater rate of labour absorption due to the imaginative agrarian and industrial policy of Meiji regime some 100 years back.[19] Japan's industrialisation was based on the release of pressure of population from land There was complementary growth of agriculture in large scale and home industry. They could utilise the large base of artisans and craftsmen in the country by simultaneous development of cottage and modern large scale industries.

In India the gains in agricultural productivity have largely been offset by excessive absorption of labour in agriculture, resulting in high cost of food and raw materials. 'As the agricultural produce constitutes inputs for industries, such a tendency leads to high cost and market constraints for the manufacturing industries. High labour cost of production per unit of agricultural output has left little purchasing power in the hands of the people for manufactured goods of mass consumption. As a

result both agriculture and industry have suffered. Thus there is need for symbiotic development of agriculture as well as large scale, small scale and cottage industries, each helping the other.

II

We have discussed so far regarding the economic variables of growth with reference to our development experience. The other important dimension of development is the influence of non-economic variables. After analysing the issue of disparity in development in a number of developed and developing countries of the world. Everett Hagen, in his book 'On the theory of social change' (1962) came to the conclusion that explanations of such differences can be sought in the field of anthropology, sociology and psychology, rather than economics. Such a conclusion was startling for an economist at the mathematically sophisticated Massachusetts Institute of Technology.[20] Let us discuss a few such non-economic variables with reference to our development experience.

Historical Factors

Orissa, which claims the distinction of ranking almost lowest among the Indian states in respect of indicators of economic development, is so due to historical circumstances. The areas carved out initially to form the province in 1936, had remained from time to time as tail ends of different provinces, e.g. Bengal, Bihar & Orissa, Central Provinces and Madras. The Central Orissa, consisting mostly of ex-princely States, was generally backward and less developed. The backwardness of the state is reflected in its finances ever since its inception. Even the British Government was conscious about this, and granted central subvention to meet budgetary deficits of the newly created province in 1937. The legacy of backwardness continues as we have not been able to overtake other states.

Socio Political Factors

Socio-political factors are known to have hindered progress and created resistance to development. There was a political movement of resistance against the construction of Hirakud Dam by exploiting the discontent of the displaced people. Though the Project was completed due to the firmness of Govt the ignorant and credulous farmers were dissuaded to utilise the canal water for irrigation purposes by creating an

impression among them that the water was useless after electricity had been produced. When all efforts of Govt officials failed to persuade the local people to use water, fertiliser and modern technology, four families of prosperous farmers were brought from East Godavari district of Andhra Pradesh to Attabira block for demonstration purpose Attracted by good returns from land about 5000 families from the same area in A.P. subsequently migrated to Sambalpur.[21] They sold their land in Andhra Pradesh at very high prices and purchased land in Sambalpur at nominal prices. At present some areas of Atrabira and Bargarh blocks, which are agriculturally most prosperous in the country, are inhabited by Telugu farmers. The same people have started grabbing land in the Rengali Project Command Area at cheaper rates.

Psychological Factors

It is alleged that peculiar personality traits in individua's (and even nations), e g. emotionality, fatalism, or laziness have hindered development. On the other hand there is the "great man" theory of history, which attributes development and social change to the dominating personality of a single individual, e.g. Kemal Ataturk in Turkey, Mao Tse Tung in China or Mahatma Gandhi in India.[22]

Innovative personality may develop in individuals when they become self-conscious about the situation. The active guidance and supervision by the father and encouragement by an educated mother help in the development of ambition in a child. Considered in terms of the responsibility of the State, development of personality would mean human capital development Right type of education and training is sure to develop the personality of a man and create an urge to grow.

Entrepreneurship

Joseph Schumpeter has laid great stress on the catalytic role of enterpreneurship in the economic development of a country. A number of empirical studies have been made in India regarding the development of entrepreneurship. Most of the studies reveal that there is usually the domination of different traditional communities in industrial development [23] But no such significant factor is noticeable in case of Orissa. There is simply the absence of tradition of entrepreneurship, and consequentially no demonstration effects on youngsters.[24] Such deficiency in entrepreneurship can certainly be compensated through adequate education, training and promotional facilities provided by the State.

Administrative Constraints

There is the universal feeling that much of our failure in planning is due to lack of efficiency in administration. Too much of controls, centralisation of administration and lack of political will to enforce structural reforms hamper efficiency. L. K. Jha, Chairman, Economic Administration Reforms Commiosion, pleads for relaxation of controls and regulations. He feels that the policy of controls is negative and not promotional. The same leads to administrative delays and corruption in getting licenses, permits and quotas.[25]

Grant of subsidies in the name of encouraging productivity has a tendency of generating inefficiency because industries cover their inefficiency under the protective umbrella of incentives like subsidies and tax reliefs. Evidently the Planning Commission intends to restrict such incentives when the 'Approach to the Seventh plan' emphasises upon efficiency, modernisation and competition in industry.

Another aspect affecting efficiency in administration is the irresistible pull towards centralisation of power in Government machinery and the corporate undertakings The eminent administrator cum academician, L. P. Singh, ICS rightly hopes that 'some time in future those in a position to change things, will have the wisdom and the will to reverse this trend'.[26]

An important factor for the slow progress of our socio-economic reform measures, specially the agrarian reforms is, what Myrdal calls, the existence of 'soft states' and the lack of political and administrative will to enforce the reform measures.[27] There is wide gap between policy formulations and their actual implementation. Unless there are sincere attempts to narrow the gap, structural reforms, embodied in the laws, cannot help in establishing an egalitarian society.

Value Systems :

Value systems are changing fast. There is scant respect for values cherished through centuries, leading to disharmony and indiscipline in our socio-economic relations. There are wide-spread corruption and illegal practices indicated by huge amounts of 'black money' which is estimtad at 15 to 20% of the Gross National product. It is generally believed that 'giving money' or 'approaching through some one with influence', and not work and effort, are the sure way to success. [28] As

a result plans do not arouse enthusiasm among the general public. In this connectien I am tempted to quote Pof. M L. Dantwala, who in a recent article, laments over the degrading value systems.

"... deeper and more fundamental than structures and relations is the permissiveness towards acquisition of wealth, the means of such acquisition and the modes of (conspicuous) consumption that have cast doubt on the genuineness of anti-poverty programmes. It has perverted the value system and made affluence-hunting respectable and poverty removal look like a cover-up show. In the eyes of many rightly or wrongly, poverty programmes have become a sin-washing routine rather than an abiding concern of planned development." [29]

The only remedy now seem to lit in clear vision of political leaders and their iron determination to implement egalitarian goals set in the plans. All other thing will fall in line and reinforce the development process.

Anti-Planning :

Scientists have established that when anti-matter comes into contact with matter, the latter is exploded, and completely destroyed as matter. On the same analogy David Ewing (1969) introduces the concept of antiplanning and emphasises upon the social and political factors that harbour antiplanning. [30] The world of antiplanning is not generally visible, audible or touchable Planning can be documented. Antiplanning cannot be documented Yet the forces of antiplanning are fully capable of destroying planning when the two come sufficiently into collision. Behind apparent success there may be real resistance to a scheme by the administrative functionaries themselves, as w ll as by the people, leading to failure of planning Take the case of loans and subsidies for creation of income-yielding assets Empirical studies reveal that in some cases behind apparent success in achieving targets of disbursement and recovery of loan, there is real failure of the scheme, because the same has not benefited the targeted people. More of empirical studies are necessary to expose the nature and dimension of the forces of antiplanning. The people must be educated to realise their permanent interest. Development of community feeling and the creation of a sense of involvement in the development projects, e, g. irrigation projects, is vital for the success of such projects. [31]

Conclusion :

On the basis of the preceding discussions I am led to conclude that development is a function of both economic factors as well as non-economic variables. We can expect higher growth with distributive justice primarily by developing agriculture.

Agricuitural targets can be achieved by strict enforcement of the structural reform measures and high priority on irrigation facilities. There should be symbiotic development of agriculture, cottage industries, small and large scale industries.

About the human and social variables, we have limited knowledge regarding the nature and dimension of the problem. More of empirical work is necessary to establish greater inter-relationships between their role and the success/failure of our development plans. Such a task can be accomplished only through a programme of sustained research in a Social Science Research Institute. I taks this opportunity of making a strong plea for establishing the nucleus of a Research Institute under the auspices of the Orissa Economics Association. With very senior and distinguished economists of national eminence with us, and the exhuberence of the young generation of economists in the State, we can certainly sustain such an institute.

I thank you once again for giving me a patient hearing.

SANATANA MOHANTY

TABLE—1

Total Public Sector outlay during the Plans including States

(in terms of percentage)

Head	First Plan	Second Plan	Third Plan	Annual Plan	Fourth Plan	Fifth Plan	Sixth Plan
1	2	3	4	5	6	7	8
1 Agriculture etc.	14.8	11.7	12.7	16.7	14.7	12.3	13.2
2 Irrigation	29.8	9.2	7.8	7.1	8.6	9.8	10.6
3 Power		9.7	14.6	18 3	18.6	18.3	19.9
4 Village and Small Industries	2 1	4.0	2.8	1.9	1.5	1.5	1.8
5 Organised industry and mining	2.8	20.1	20 1	22.8	18.2	22 8	20.9
6 Transport and communication	26.4	27.0	24.6	18.5	19.5	17.4	15.9
7 Social Service	24.1	18.3	17.4	14.7	18.9	17.4	17.6
Total :	100.0	100.0	100.0	100.0	100.0	100 0	100 0

Sources : Tata Services Limited, Statistical Outline of India, 1984.

TABLE—2

Key Annual Growth Rates (Plan wise)

(Percentages)

Plan-wise	National income at 1970-71 prices	Per capita income—1970-71 prices	Agricultural production	Foodgrain production	Ind. production	All India consumer prices (Ind. workers)	Registered job-seekers	Population growth
1st Plan 1951-56	3.6	1.7	4.3	5.2	7.4	−0.9	16.4	1.9
2nd Plan 1956-61	4.1	2.0	4.1	3.9	6.6	5.3	18.5	2.0
3rd Plan 1961-66	2.4	−1.0	−1.0	−2.0	9.0	6.5	10.5	2.2
3 Annual Plans 1966-69	4.4	1.8	6.9	9.4	2.6	8.0	5.3	2.1
4th Plan 1969-74	3.4	1.1	3.1	2.8	3	37.7	22.5	1.8
5th Plan 1974-79	5.3	3.0	4.6	5.4	6.2	6.3	9.2	1.7
1979-80	−5.5	−7.7	−15.2	−17.6	−1.4	8.8	13.1	2.3
1980-81	7.9	5.6	15.7	19.8	4.0	11.4	13.0	2.2
1981-82	4.9	2.7	5.5	2.2	8.6	12.5	10.1	2.2
1982-83	−1.7	−0.4	−4.0	−4.2	3.9	7.8	10.7	—
1950-81	3.5	1.4	2.7	2.9	5.7	—	—	2.1

Source : Stastical Outline of India, 1984, Tata Services Ltmited, Bombay
Population growth figures from J. S. Uppal, Indian Eco. Planning Macmillan, 1984.

TABLE—3

Gross Domestic Product at factor cost by Industry of Origin 1950-1981 (At 1970 71 prices)

Percentage contribution

Industry	1950-51	1955-56	1960-61	1665-66	1970-71	1974-75	1979 80	1980-81*	1981-1982*	1982-83*
1 Primary	61.3	59 5	56.6	48.1	27 8	45.1	39.6	42.5	41 8	39.5
2 Secondary	14.5	15.5	17·0	21.1		21.2	23.4	21.1	21.1	21 4
3 Tertiary of which :	24.2	24.9	26.3	30.9	41.4	33.6	36.9	36.4	37.1	39.1
a) Transport, Communica-tions & Trade	11 6	12.4	13 5	16.1	21.6	17.5	19.5	18.5	18.8	19.1
b) Finance and Real estates	3.5	3.7	3.8	4.7	7.7	6 0	6.7	5.7	5.7	6.1
c) Community and personal services	9.1	8.8	9.0	10.1	12.1	10.1	10.7	12.2	12.6	13.9
Total :	100	100	100	100	100	100	100	100	100	100

Sources : J. S Uppal, Indian Economic Planning Macmillan. 1984.
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* Figures pertain to Net Domestic Product.

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Welfare Economics : Some Issues and Problems

D. Mahapatra

The paper seeks to present a broad outline of some of the major issues discussed in the theory of welfare economics. There is no pretension to originality or comprehensiveness.

I

Welfare economics is a vast and diverse subject. Since the publication of Pigou's *Economics of Welfare* (*1924*), the literature on the subject has proliferated in wide-ranging directions grappling with newer themes and issues. Pigou used the size of the national divident as an index of welfare. According to him, the national divident is maximized only if the marginal social product or what is the same, the marginal social cost of resources in all alternative uses is the same. He recommended transference of wealth from the rich to the poor on the ground that it enables more intense wants to be satisfied at the expense of less intense wants and hence increases the aggregate sum of satisfaction. It is obvious that Pigou's welfare propositions are based on the assumptions of cardinally measurable utilities and interpersonal utility comparisons. Robbins, in his *Easay on the Nature and Significance of Economic Science* (1932), strongly criticised interpersonal comparisons on the ground that such comparisons are value judgements and not scientific. A large part of post-Pigou Welfare economics was what Hicks termed 'partial welfare analysis'. It was concerned with the correct setting of the price for a particular commodity and whether or not to introduce a new commodity. The analysis was based on the assumptions of measurable and additive utility. When measurable utility fell into disrepute, so too the welfare analysis based on it. Hicks and Henderson, however, in a series of articles showed that consumers' surplus (and hence individual net gains and losses) can be measured in money terms. But whereas the measurable utilities of individuals are additive and interpersonally comparable, no such process can be performed with gains or losses measured in money terms.

Robbins' critique of the Pigonian welfare economics led subsequently to the development of *Paretian welfare economics.* The two basic value premises underlying Paretian welfare economics are: (i) that an individual is the best judge of his own welfere and (ii) that if atleast one individual's welfare (real income) increases then provided no body else's real income decreases, social welfare increases. The Paretian welfare economists claim that these value judgements are widely acceptable and, therefore, *non-controversial* On the basis of these assumptions, these economists have formulated necessary conditions for Pareto optimality. The necessary conditions for Pareto optimum in consumption and production are that the marginal rate of substitution between any two goods must be the same for all consumers and the marginal rate of substitution between any two factors must be the same for all goods preduced with the help of these two factors. The over-all Pareto optimulity requires that the marginal rate of substitution in con-umption between any two goods must be equal to marginal rate of transformation in production in respect of these two goods. From these conditions follow the Pareto criterion for evaluating an economic change. Any change in allocation that improves the welfare level of atleast one member of the society without worsening the welfare position of others constitutes a Pareto improvement. The system is said to be Pareto optimal when no such Pareto improvements are possible. The essential shortcoming with the Pareto criterion is that it fails in situations where a policy change makes some people better off while making some others worse off simultaneously. The subsequent developments in welfare economics can be viewed as an attempt to extend the range of comparisons beyond what is possible under the Pareto criterion. The Kaldor Hicks *compensation principle* is one such attempt. The compensation principle attempts to bypass the problems associated with distribution of income among consumers and to formulate a ranking of social states by examining the real income associated with the social states. The argument underlying the principle may be stated as follows. Assume two social states X and Y. If the gainers in X are capable of compensating the losers and are still better off than Y or atleast as well off as Y, then X will be judged socially preferable to Y even though no compensation is paid. Scitovsky pointed out that in this formulation of the compensation principle it might well turn out both that X is to be regarded as socially preferred to Y and that Y is to be regarded as socially preferred to X; that is, the gainers can compensate the losers in moving from Y to X. He, therefore, laid down his own criterion. According to Scitovsky criterion, not only Kaldor-Hicks criterion, must be satisfied

but also that the losers from an economic policy should not be able to bribe the gainers to oppose the change. Graff, using Samuelsonian utility possibility curve technique, showed that Scitovsky's own criterion is insufficient to ensure that the utility possibility curves corresponding to two social states do not intersect which is necessary if paradoxes of the kind pointed out by Scitovsky are to be avoided.

A large part of welfare economics has been devoted to the issue of efficiency of a competitive market economy in terms of Pareto optimality. It has been shown that every competitive equilibrium is Pareto optimal and every Pareto optimal position is competitive equilibrium. These two theorems are based on the assumptions that markets for all commodities exist and individual's preference ranking and the transformation set are characterised by convexity. A violation of either of these two assumptions would affect the validity of the two basic optimality theorems In the discussion on Pareto optimality and competitive market mechanism, Lipsey and Lancaster propounded what is termed *the theory of second best*. They argued that "if one of the Paretian optimum conditions cannot be fulfilled, a second best optimum is achieved only by departing from all other optimum conditions... in general, nothing can be said about the direction or the magnitude of the secondary departures from optimum conditions made necessary by the original non-fulfilment of one condition". They demonstrated the relevance of this negative proposition to a number of economic problems and asserted the futility of piecemeal welfare economics.

II

Given that the Pareto optimum conditions are satisfied, it is, however, possible to have an infinite number of situations which are all Pareto optimal. In order to determine the maximum position of social welfare, it is necessary to use the concept of a *social welfare function*. The Bergson-Samuelson social welfare function may be stated as:

$$W = W(Z_1, Z_2, \ldots\ldots\ldots\ldots, Z_n)$$

where W is a real valued function of all variables—the Z_i s — that might affect social welfare. The Z_i s and W are chosen to represent the ethical values of the society. The objective is to define a W and a set of Z_i s, and the constraints thereon to yield meaningful first and second order conditions fot a maximum W. Although in principle any variables might be included in the social welfare function that are related to a society's well-being, economists have focused a economic variables only. The

problem with social welfare function is, however, about its construction. It is not enough just to postulate a social welfare function. The real question is what value judgements one must adopt to develop a social welfare function. Underlying every Bergson-Samuelson social welfare function there must be a social ranking and this social ranking is derived from the preferences of the individuals in the society. What is the method by which such transition is made ? In other words, what should be the method of making social decisions ? This is the question to which Arrow addressed himself in his *Social Choice and Individual Values* (1951). Arrow laid down five reasonable conditions which the social decision rule should satisfy. These are : (i) for every set of individual preference orderings the decision rule should yield a social ordering, (ii) if everybody in society strictly prefers one social alternative to another then so should the society, (iii) all logically possible profiles of individual orderings of the set of alternatives are admissible in social choice, (iv) social ranking of any two alternatives is determined exclusively by individual rankings of those two alternatives alone and (v) there should not be any dictator i.e. there is no individual whose preference ordering determines social choice regardless of the preferences of other members of the society.

Arrow has demonstrated that if there are more than two alternative social states, then there does not exist a social welfare function satisfying all of his conditions. This striking result is referred to as the *Arrow Impossibility Theorem* in the literature on social choice theory. A large part of the literature in welfare economics over the last three decades is concerned with finding an escape from Arrow's problem. Attempts have been made to relax Arrow's condition of transitivity to *quasi-transitivity and then to acyclicity*. It has, however, been demonstrated that as one relaxes transitivity to quasi-transitivity and then to acyclicity dictatorial power does not disappear entirely and there arises the problem of *oligrachy or collegial polity*. Another escape route has been sought by relaxing Arrow's third condition. It is pointed out that if in real life people's preferences revealed certain similarities then there is no reason why we should demand the social decision rule to yield a social ordering for every possible configuration of individual preferences. It would be enough if the social decision rule yields a social ordering for profiles of individual preferences characterised by such similarities. But this way of relaxing Arrow's third condition requires single-peakedness of preferences to produce a social welfare function and the requirement of single-peakedness of preferences has very little relevance for practical issues in social choice. Another line of approach has

sought to escape from Arrow's problem by relaxing the condition that social ranking between any two alternatives must depend on the orderings of individuals over only those two alternatives, the rest of the agenda being irrelevant for the purpose. This condition makes social choice completely insensitive to changes in individual *preference intensities*. But consideration of intensities of preferences requires cardinally measurable utilities and interpersonal utility comparisons. Nevertheless, with some degree of interpersonal comparisons and cardinal measurement of utility, the rigour of the Arrow problem is considerably abated.

III

The modern literature in welfare economics, besides exploring possible escape routes of the Arrow paradox, has also explored certain other important areas. One major field of exploration has been a thorough investigation of the formal structure of various democratic group decision rules. As a result, the formal content of the notion of direct as well as representative democracy has become considerably clearer. A considerable literature has also developed analysing the structure of voting games and a large number of game theoretic concepts have been utilized in exploring the strategic aspects of social choice. Besides, attempts have been made to explore how individual preferences are formed Individual preferences may be conditioned by the social position, economic advantages and benefits enjoyed by individuals in society and also by their subjective characteristics. Should these preferences constitute the basis of social choice ? This is the question that Harsanyi asked. Harsanyi distinguishes between the individual's *personal preferences and ethical preferences*. Personal preferences are what the individual uses to make his day-to-day decisions. The ethical preferences are used on those more rare occasions when the individual makes ethical choices. In making the latter decisions, the individual must weigh the consequences of a given decision on other individuals and thus must engage in interpersonal utility comparisons. Harsanyi contends that social welfare function should be based on the ethical preferences. Harsanyi introduced uncertainty to force individuals to be *impersonal* in their preference and this impersonality is the basic feature of ethical preferences. Rawls, in his *Theory of Justice* (1971) has used the notion of the *orginal position* where an individual is unware of "his place in society, his class position or social status .....his fortune in the distribution of natural assets and abilities, his intelligence and strength.....or even the features of his psychology". In order to do this, Rawls puts the indivlduals under a

veil of ignorance. The purpose of this is similar to that in Harsanyi, i. e. to force individuals to be impersonal. While Harsanyi's individuals choose the utilitarian principle for organising the society when put in the state of impartiality, Rawls' individuals choose certain principles of justice which are essentially the *maximin* principle of choosing that social state where the welfare of the worst off individual is the maximum.

IV

To conclude, welfare economics has raised more problems than it has answered. The subject is still growing and remains a challenging field of study and investigation. Indeed, it is precisely because welfare economics deals with some of the toughest questions a community faces, one can remain optimistic about the field's future growth and development. The subject has been more *light bearing than fruit bearing*.

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The Borderland of Welfare Economics

Prof. B. Das

Much controversy surrounds the birth and growth of the Welfare Economics. Some thinkers like Prof. L. Robbins are apt to deny the very existence of this branch of economic knowledge. To them Economics is a positive science. It provides only generalisations, no norms. Yet welfare economics has carved out a place of its sown. We accept it and study it. In this short paper my intention is to try to locate its boundary.

The dichotomy does not suffice :

Positive Economics concerns itself with ascertainable facts with empirically verifiable propositions. It pertains to truth or falsehood of facts, statements, conclusions etc. Welfare Economics is dependent on value judgement. It speaks of what is good and what is bad. Disputes regarding value judgement can not be settled by mere reference to facts or proven statements. Interpretations and statements in this area of economics are value-loaded and mostly opinionative in character. The two branch disciplines are disparate and distinctive in the sense that no normative statement can be derived from positive postulates. No positive proposition can be also deduced from normative statements.

But the point is that the two do not exhaust the domain of Economics Quite sometime back John Neville Keynes referred to positive, normative and practical economics. Practical economics in later years became applied economics, With the advent of macro-economics and planning, elaborate control and manipulative mechanism have been devi ed to get desired results from socio-economic systems and sub-systems. Adolph Lowe suggests instrumental analysis as a third segment of economic independent of positive and normative analysis.

It is instructive to see the grammatical forms in which the proposition of the different branches are couched. Positive statements connect cause and effects, means and ends with 'is, was or will be.' It can be stated thus : if X, then Y. In other words Y is the effect of X. Or Y is a function of X. Welfare statements use the expression 'should

or ought' to be. One example of this runs thus : We ought to avoid both inflation and depression In instrumental analysis we put ends first and means next If we want to avoid inflation and depression, apply a mix of monetary and fiscal policies We have a trichotomy in Economics. Positive economics deals with generalisation, and uniformities based on empirical testing. Normative economics is concerned with standards And instrumental economics gives us precept-rules of action. It tells us what to do to get the result. It is a kind of cook book or recipe.

The triple division of our science is not all embracing. There is much in our subject which are not tested, nor are they testable. There are universal truths like man is selfish. So he maximises utility. Sacrifice theories of taxation assume that money income is subject to the law of diminishing marginal utility. Rich and poor persons have identical demand schedules Such assumptions are contrary to facts. Marginal cost curve passes through the minimum point of average cost curve. This follows from definition. Some of our statements are introspective in character. All these hotch potch we can name as residual economics.

Overlapping branches :

Propositions in Positive Economics do have emotive overtones.

Take these following propositions :

Rate of rise of income of a country is by 2 percent per annum. Rate of rise of population is 2 percant per annum. These are statements in positive economics but they have welfare implications. One can say that performance of the economy is unsatisfactory. Sometimes welfare propositions have positive testable implications. We can start with the normative statement that we ought to control rise in population. It suggests hypotheses in positive economics. In the event of population rise, savings do not go up; poverty pockets appear; congestion in urban areas develop; slums grow. All these can be proved or disproved by offering factual evidence. Again normative proposition can be in indicative mood in a positivistic manner. For example, flower is good.

In instrumental analysis when we issue instructions like, raise tax rate, and cut expenditure by 3 percent, do not recruit persons for six months etc., there are normative underpinnings. Micro and macro-economics lead us to formulate micro and macro policies which take on

instrumental character. We are all by our heads positivistic, by heart welfarists and by action instrumentalists. It is possible to tread all the areas with ease. The boundary lines of these areas are indistinct and when logically pushed to the extreme may collapse completely.

Necessity to avoid semantic confusion :

The word 'positive' has many shades of meaning. Description, explanation, laws, tendencies, testable propositions, probability are used as substitutes. The word is contrasted with negative, uncertainty, non-observable, non-testable, prescriptive, normative etc. Likewise normative has synonyms like rule, advice, command, precept, art etc. It is important to pin down meanings and avoid confusion. Positive economics is confined to observable, testable proposition. Normative economics covers evaluative statements which are value judgements. Instrumental prepositions are rules to be followed for attainment of ends.

Con clusion :

Welfare economics is normative. Methods followed are different from those followed in positive branch of economics. It does not imply that welfare economics is unscientific and hence should be shunned. Not the least; we can utmost say that welfare propositions are non-scientific but they do matter for man and society. They need not be mixed up with rules of action or prescripti on.

Recent Trends in Welfare Economics

Uttam Charan Nayak

Economists of Normative School stressed the welfare aspects of individuals along with society over time through analytical models of orderings or ranks and cardinal preferences. The school aimed at maximising utility on the basis of equalisation of marginal social net products. Social net products include the full return of utility or welfare to society as a whole from any given productive activity. Though welfare as such may be an ethical concept, it has essentially a material foundation. The science of economics, therefore, though dealing with material aspects of human society can not be said to be bereft of any significance for welfare. However, welfare being a Psychic experience, any attempt at its measurement will prove imperfect. What the economist is interested in the maximisation of material welfare and the conditions necessary for its realisation.

Two trends are discernible in the field of Welfare Economic Theory. The first category is that of Marshall, Pigou and Robertson—the so called utilitarian approach. The second category consists of Robbins, Little, Hicks, Kaldor, Bergson, Samuelson, Graaff, Arrow etc. The second has for its setting the focus on planning in a democratic or partially collectivist state and concerns itself particularly with the term Social Choice and Social Welfare. This has emerged as an attack on Utilitarianism.

I

Pigou's Economics of Welfare is a landmark in the development of Welfare theory. Pigou conceived welfare as apart of total welfare. He declared that economics as a study should be fruit bearing and not merely light bearing. Both Pigou and Robertson were concerned about the major weaknesses of the capitalist system where there are many persons who incur risks of an important kind without acquiring any share in industrial management. Pigou was very much for transference of income from rich to poor, even at the cost of a decrease in National Dividend, if it would help more people to find such activity which would free them.

II

The Second approach to Welfare Economics has two under currents. The first current was that of the New Welfare Economics, which based itself entirely on the ordinal utility concept and tried to keep out value judgements and the inter-personal comparison of utility.

In the late thirties there were attempts to find out methods of saying in which situations Welfare had increased but without having to make inter personal comparisons. They were in search of Pareto Optimum Positions, i.e. such changes which made at least one person better off without making anybody worse off.

According to Marshallian and Pigovian concepts of Welfare economics, the subject is restricted to

(i) measurability of utility in case of individuals (utility is the power to satisfy wants not the power to confer benefits).

(ii) Inter-personal—comparisons of utility leading to increase or decrease in total utility, and

(iii) application of the law of diminishing marginal utility to income.

Marshall disposed off inequality in the distribution of income as an objection to the measurement of Welfare in price terms. Price measures desire and desire is an accurate reflection of a satisfaction. Whether price or distribution of wealth is an adequate measure of welfare is yet a discussion to be finalised.

The real difficulty is : "nobody can move to a position which he prefers without moving somebody else to a position which is less preferred". Pareto-Kaldor-Hicks argued further by suggesting a solution to this problem that gainers could compensate the losers and yet still have increase in their income. This argument has bedevilled the problem of inter personal comparisons of utility. This is known as compensation principle. Hicks maintains that we can lay the conditions which must be fulfilled to bring about an increase in efficiency of the systems as a means of satisfying wants. He believes that if the efficiency test is fulfilled there would be a strong probability that almost all of them would be better off after the lapse of a sufficient length of time.

The Kaldor and Hicks criterion in similar to that of Pareto, viz. Welfare is said to have increased if individual reaches to a higher indifferent curve but Kaldor and Hicks go further compared to Pareto by stating that all changes may not necessarily improve Welfare unless the distribution aspect is considered.

In the late forties, dissatisfaction arose with the New Welfare Economics with Little's critique where need for value judgements, inter personal comparisons were re-established Robbin's plea for bringing politics and ethics from outside was reinforced by Little. Little continued the tirade against Utilitarianism. I. M. D. Little as criticised the compensation principle and expressed the view that it confused potential with actual welfare in spite of the fact that its founders maintained it from a purely economic point of view. In his view, to derive a criterion for indicating a change in economic welfare merely by reference to the level of national production (compensation criteria) has been a delusion.

In the context of welfare economics, Samuelson has cleaned up the theory over a vast field, the theory of revealed preferences has also been a practicable instrument. Samuelson's other important contributions to Welfare theory include the further development of the concept of the "Utility Possibility Frontier."

In the early fifties, Kenneth Arrow in the political framework of planning in a capitalist democracy tried to arrive at social choice through individual orderings Arrow's book "Social choice and individual values" represents the acme of modern approach to Welfare economics or more accurately, the acme of the static version of New Welfare Economics. It is assumed that each individual in the community has a definite ordering of all conceivable social states in terms of their desirability to him. An explicit rule relating to individual ordering to social ordering is called the social welfare function in Arrow's terminology and this ruls like Bergson's economic Welfare Function combines an assertion about ends with a criterion for judging alternatives in terms of these ends. This is termed as General Possibility Theorem. If consumer values can be represented by wide range of individual orderings, the doctrine of voters' sovereignty is incompatible with that of collective rationality.

According to this famous theorem there does not exist any social choice procedure which (i) provides transitive ordering of the set of all

conceivable social alternative; *(ii)* provides a transitive ranking of any subset of the alternatives and (iii) is derived from individual orderings.

The developments in the 60's consit of the attempts by many to get round Arrow's impossibility Theorem.

Hare's Universability Principle points out that an equitable or just action or choice is one which can be universalised. Rawls puts forward the principle of maximum justice. This is the policy of making the worst off individual better off. Harsanyi makes ethical preference impersonal. Impersonality is assured if the individual does not know what his personal position would be in the new situation chosen. Suppe introduced interpersonal comparison through his Grading Principle of Justice.

However, unlike Rawls and Harsanyi, Suppes' criterion is incomplete. If Suppes' principle is extended to n-person societies it incorporates both utilitarianism and Rawls maximin criterion. If X is more just than Y in Suppe's sense then X must have a larger aggregate welfare than Y (utilitarian relation) and also the worst off individual X must be atleast as well off as any individual at Y (maximum relation).

Welfare economists owing allegiance to the utilitarian philosophy wanted to work out a system where no unemployment would exist. The whole theory of social choice assumes full employment. The Industrial system has kept out the large number of manual workers from decision making.

The worker does not have a share in the control of industry though shares the risk of unemployment. The unemployed have absolutely no voice in shaping the industrial structure to their satisfaction.

Development in Welfare Economics : A Chronological Review

Madhusudan Mohanty

Though Pigou's celebrated work, "The Economics of Welfare" opened up an era of serious and continued discussions on welfare economics, its genesis can be traced back to the latter part of the 18th century. Since the beginning, a continuous stream controversy is in the air with regard to two major issues, viz.

(i) whether welfare economics can be a value-free science, and

(ii) whether it can enable the society to reach a welfare-optimum.

The debate can be reviewed chronologically, right from the classical era to that of the days of Arrow.

Classical View :

Adam Smith conceives the economic problem of any society as the struggle of man against nature in producing material wealth and consequently the degree of success, which man attains in this struggle, measures the magnitude of economic welfare in such a society. Though 'wealth' and 'welfare' are not synonymous, it is believed that nation's wealth can considerably influence nation's welfare. Hence he was chiefly concerned with the problem of increasing the wealth of a nation without paying any heed to the question of welfare. He offers a positive approach to economics, which, of course, if associated with a normative end, that is, rise in national income is an index of economic welfare. This was more or less the general approach of classical economists and can be designated as a 'Production Welfare Economics'.

Neo-Classical View :

In the latter part of the nineteenth century a new school, headed by Jevons, Menger and Walras, called the 'Marginal School', emerged and brought about revolutionary changes in economics through their

celebrated 'Utility Theory'. They rejected the classical emphasis on the physical concept of wealth and insisted on the utilitarian psychology, which they developed in terms of a calculas of pleasures and pains. The works of Marshall, Pigou and Pareto have been considerably influenced by the 'Marginal revolution.'

Alfred Marshall, the pioneer of the neo-classical school, developed a partial analysis of welfare economics through the consumers' surplus technique. Assuming cardinal measurability of utility and constancy of marginal utility of money, Marshall regards consumers' surplus as the real measure of satisfaction and hence a price-quantity situation that generates greater consumer's surplus is preferable to the one, that yields less, from the point of view of economic welfare.

However, it is Prof. A. C. Pigou, who for the first time, popularised the term 'welfare' in his book 'The Economics of Welfare, Pigou distinguishes economic welfare from general welfare by restricting the former to 'that part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money', and thus economic welfare, according to him, is amenable to quantitative measurement. He emphasises that a higher national income is an index of greater welfare, only when it is associated with an equitable distribution of income. On the basis of his 'Equal capacity for satisfaction' hypothesis, Pigou establishes that any transfer of money income from the relatively rich to the relatively poor will enable more 'intense wants to be satisfied at the expense of less intense wants'. Thus Pigou's dual criteria suggest that any policy, designed to generate a perfectly egalitaria economy, and having no adverse impact on incentives and capital formation, maximises aggregate welfare in a free-enterprise economy.

Pigou's analysis of disharmony of private and social interests arising out of external effects in production and consumption makes his welfare analysis pragmatic. Any economic activity, generating social net product in excess of the private net product, augments aggregate economic welfare, and should, therefore, be induced through subsidies The 'Pigovian optimum' is reached when society has obtained maximum production of wealth, where marginal social products in all industries are equal. Such a position is referred to as 'ideal output' position by him.

By shifting the emphasis from 'wealth' to welfare. the neo-classical economi ts contribute significantly to the development of welfare

economics; but their acceptance of cardinal measurability of utility makes their suggestions unacceptable in latter days.

Pareto's Contributions :

Pareto is the real pace-setter of controversy in modern welfare economics, who by rejecting the neo-classical cardinal measurability of utility and the role of much-debated inter-personal comparison of utility in economics, enunciates a positive criterion in order to evaluate the social desirability of alternative social states. A Paretian social optimum is defined as a position from which it is not possible, by any reallocation of inputs or outputs, to make anyone better off without making at least one person worse off. He enumerates certain marginal conditions for obtaining such an optimum position : A sub-head of (a) Pareto optimality for consumption :—

The condition states that the marginal rate of commodity substitution (MRS) between any two goods should be same for all the consumers. If there is any divergence, reallocation of the two goods among the concerned two individuals can be affected which would increase the satisfaction of both or of one without reducing the satisfaction of the other. In terms of Edgeworth-box diagram, it can be shown that any point on the contract curve is Paretowise superior to any point off the contract curve, as the former represents an improved allocation of goods between the two individuals, whereby the satisfaction of both or at least one is increased.

(b) Pareto optimality in Production :

In production sector, the marginal conditions are three fold, viz. (i) marginal rate of technical substitution (MRTS) between any pair of factors should be same for any two firms using both the factors to produce a given commodity, (ii) marginal rate of product transformation (MRPT) between any two goods should be same for any two firms which produce them, (iii) marginal productivity (MP) of any factor for a given product should be same for both the firms.

The first condition of production optimum ensures efficient allocation of resources between the firms, who, ultimately operate on the points of the production contract curve, which is Pareto-wise superior to any other point in the relevant Edgeworth box diagram The second ensures the optimum output of each product to be produced by each

firm. If MRPT between two goods is not same for any two producers, the combined output of both the goods or atleast one good can be increased without reducing the output of the other. The third marginal condition ensures optimum factor-product relationship. Transfer of a factor from a firm having low productivity to the one having high productivity adds to the total output of the product. Thus Paretian Production optimum depicts optimum factor-factor, product-product and factor-product relationships.

(c) **General Pareto-optimality :**

General optimum in Paretian frame work is attained when production optimum in producing sector and exchange optimum in consuming sector are simultaneously reached, where the subjective rate of substitution common to all individuals, equals the objective rate of transformation for all pairs of goods in the economy. Such a position is defined by technical conditions of production and the consumers' preference pattern and is depicted by a point where the slopes of the community transformation curve and consumer's indifference curve are equal.

All the Paretian marginal conditions are satisfied in a perfectly competitive economy where all inputs and outputs have fixed prices, and both the producers and consumers are free to maximise output and utility respectively. It is in this sense that perfect competition represents a welfare optimum. However, in the presence of the external effecfs in consumption and production, the equality of MRSs does not make anyone better off, even in a perfectly competitive economy because the utility functions are interdependent. In such cases, the Paretian marginal conditions require that the sum of the consumers' MRSs between a public and a private goods should be equal to the corresponding MRPT for each other, and the price must equal social MC rather than private MC. Appropriate tax-subsidy measures are suggested to improve a Pareto non-optimal allocation.

Pareto criteria result in unambiguous welfare improvement by affecting appropriate allocations of products and factors when the consumers or producers are of the contract curve in the Edgeworth box diagram. But when they are on the contract curve, a change in allocation cannot be evaluated without value judgements, because an improvement in the welfare of one individual can be obtaind only at the expense of the other and thus it renders the movement along the contract curve Pareto non-comparable.

New Welfare Economics :

Two schools of economists, having different approaches to the issue, suggest alternative solutions for Poretian non-comparability problem The first group consisting of Kaldor, Hicks and Scitovsky, suggested a compensation test and the second group headed by Bergson and Samuelson, formulated a social welfare function to evaluate the desirability of alternative positions on the contract curve.

According to Kaldor. state A is socially preferable to state B, if those who gain from A can compensate the losers and still be in a better position than at B In an alternative way, Hicks suggests that state A is socially preferable to B, if the losers in A cannot profitably bribe the gainers in to not making the change from B to A. Both the two tests have similar implications and they offer a value-free solution in evaluating the alternative social states along the contract curve. A change, that favours some and harms others, can, therefore, be deemed to be an improvement, if the gainers can bribe rhe losers in accepting the change while they remain still better off than before. Kaldor-Hicks test may yield inconsistent results because on the basis of this criterion, a situation A, which has been considered superior to B, may again appear to be inferior to B, once A is chosen. Because of the paradox of 'reversal test', Scitovsky offers thc double criterion. which states that if on the Kaldor-Hicks criterion, the move from B to A is an improvement, then by the same criterion, the return move from the new position A back to the original one B is not considered as an improvement. Thus a change is socially desirable if the gainers can profitably compensate the losers and the losers cannot profitably bribe the gainers in to rejecting it.

The new welfare economists suggest to accept a situation of higher production, where the gainers can profitably compensate the losers, without any reference to the question of distribution, which, in fact, is no less important in influencing economic welfare than production. Moreover, it only examines the potentiality of the new situation in generating a surplus to pay compensation to the losers, without ensuring any guarantee of such payment, and consequently 'alternations which would improve welfare if accompanied by compensation, need not lead to improvement if compensation is omitted'. Finally, compensation principle cannot be considered value free, because accepting good changes, that enable gainers to over-compensate losers, carries a peculiar type of value judgement with it. Thus the first attempt of resolving the Paretian non-comparability problem makes no significant improvement, eventhough it is an excellent theoretical exercise.

Social Welfare Function :

The efforts of the new welfare economists to rehabilitate welfare economics on objective economic criteria, independent of ethical norms could not yield satisfactory result. Samuelson and Bergson established the proposition that welfare economics, being essentially a normative study, can make meaningful objective statements about economic welfare only when it is qualified with some ethical norms. In their attempt at obtaining a social welfare optimum, they constructed a social welfare function and thereby achieved a land-mark in the development of welfare economics.

Originally social welfare function was supposed to depend upon those variables (L's) that influence individual welfare. Thus $W=W(L_1, L_2 \ldots\ldots, L_n)$. But recently, it has been reformulated where social welfare is a function of the individual utilities alone. Thus $W=W(U_1, U_2 \ldots\ldots U_n)$, where U depends upon individual's own consumption of goods and supply of services, and not on the amounts consumed by others. Social Welfare function is a real-valued function and it is based on ordinal utility index of individuals. The social welfare function is formulated on the basis of a set of value-judgements provided exogenously to the given framework. The judgements as to what constitutes justice and virtue in distribution may be those of the economist himself, or those set up by the legislature, or by some governmental authority or by some other unspecified person or group'.

Once the social welfare function, based on some ethical norms, is formulated, the optimum welfare position is reached where the economy's aggregate transformation function is tangential to the highest attainable community indifference curve, or Bergson contour. Bergson-Samuelson formulation effectively cures Paretian non-comparability problem. By introducing social welfare function through Bergson contours, they are accomplished in selecting the optimum position from among a set of Pareto-wise non-comparable points lying on the contract curve. They suggest that no realistic policy proposal can be advocated without taking recourse to some ethical norms, and thus they explicitly introduced inter-personal comparison of utility into social welfare function.

No doubt, social welfare function is a brilliant theoretical construction in the direction of resolving Paretian problem. But its practical significance is limited by its general and abstract nature. In a

democratic state, where there are as many welfare functions as the number of individuals, it has seldom got any operational worth. In recent days, Prof. Arrow is sceptical about the existence of such a social welfare function.

Arrows' View :

Bargson-Samuelson SWF is a real valued one and hence it is incapable of incorporating the lexicographic ordering (which are incapable of being depicted by any real-valued function) in to it. Moreover, Arrow believes that 'for the purpose of enabling us to choose between alternative policies, it is not really necessary that such a real-valued function should exist. A complete social ordering is sufficient'. Arrow in his seminal work, "Social Choice and Individual Values", based his analysis on a social ordering rather than a function.

In a society consisting of n individuals, R_1 denotes the weak preference ordering of alternatives of the ith individual, and R is the corresponding social ordering. An ordering assumes individual's rationality in the sense that it satisfies connectedness and transitivity. Arrow defines social welfare function as a collective choice rule for deriving a social ordering from individual orderings. Thus $R = F(R_1 ... R_n)$. Such a social ordering can accommodate any type of ordering because it need not be real-valued. Moreover, here the individual's ordering (ordinal ranking) between alternatives not only depend upon his own utility, but also on the utility derived by others in different alternative social states. He lays down four conditions, called collective choice rules which a social ordering should satisfy. The conditions are (i) Weak Pareto rule (P), (ii) Unrestricted domain (U. D.), (iii) independence of irrelevent alternative (1), and (iv) non-dictatorship (ND).

Arrow contends that it is not possible to construct a social welfare function based on all the four axioms. In terms of symbolic logic, Arrow proves that when the number of alternative social states exceeds two, no social ordering satisfying the above conditions can be obtained. The social welfare function, derived by the majority decision or any other rule, is either superimposed or dictatorial.

Several attempts have been made to relax the rigidity of Arrow's conditions so as to generate a social welfare function But it has led to other impossibility theorems and thus Arrow still appears as a scarecrow in the literature to-day.

However, Arrow's theorem rightly shows that the economic tools available to handle the problem of social choice are inadequate and imperfect, and hence when such problems arise, economics must have to collaborate with 'ethics, political science, sociology and psychology' so as to procced towards a practical solution.

Conclusion :

The study chronologically reviews the development of welfare economics overtime. In the process there has been a shift of emphasis from welth to welfare and the question of admissibility of interpersonal comparison of utility in to the general fabric of welfare economics has been satisfactorily resolved. The problems of welfare maximisation and choosing between alternative social states remain still unresolved in the hands of the economists, and it is through the coordination of other branches of social science, that a welfare economist can suggest satisfactory tools for evaluating the social desirability of alternative social states.

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"Social Welfare Function and negative externalities"

Kumar B. Das

The quality of life is neither solely determined by the cleanness of the air we breathe and water we drink nor by the access to the number and variety of products our economy is capable of producing and providing. Now-a-days GNP stands for Gross National Pollution. So Tobin and Samuelson have made allowance for all kinds of production-consumption negative externalities (Pollutian, smoke, noise, congestion, urban disamensies and reduced legislature) and have devised the concept of "Net Economic Welfare" (NEW) to gauge the quality of life and standard of living or the level of aggregate economic welfare. Higher NEW is non-compatible with higher GNP. Hence in order to achieve higher NEW some growth in ordinary GNP has to be sacrificed.

In order to achieve higher GNP higher technological progress, industrialisation and urbanisation have been considered indispensable. But in every industrial sector the "joint product" integrally connected with every production and consumption activities has a peculiar distasteful and dangerous effects of deteriorating the quality of human life and environment ! These "negative externalities" emerge when the decision variable of one economic agent enters into the utility or production function of some other economic agent. It distorts the behaviour function of another individual or society in an adverse way.

The agents of production and consumption regard their disposal or emmission cost as zero and use the environmental sector as long as it permits them to improve their own welfare. Environment is a common property, each agent acts as if "he owns it". He does not have to pay anything to anybody. Every one has the tendency to overuse the costless environment. The reckless use without paying any heed to the damage done is causing environmental standard unhealthy and detrimental to human welfare. Environmental poisoning is cumulatively reducing the life-span and costing lives which are beyond the imagination of ordinary people living in urban and industrial areas.

These 'uncompensated damage' represents a social cost and as such a loss of qualitative welfare or Pareto efficiency to the community. Market mechanism fails. Market forces left to themselves can not optimise the welfare unless some regulatory mechanism is devised. That mechanism has to monitor in order to 'internalise' the social cost of this unpaid damages. If the agents of pollution (smoke, noise, waste congestion etc) were made to bear the social cost (i. e. to pay the compensation for welfare loss) then less of these activities would be done and in some cases may altogether cease to function.

This paper attempts to find out the economically 'permissible limit' of environmental damage by resorting to the marginalist logic. Assuming a large scale manufacturing unit producing 'q' volume of a good pollutes and causes environmental damage 'd'. Therefore;

$$d = f(q), \qquad \text{where } [dd/dq] > 0$$

Let p be the price per unit of environmental damage and P be the unit product price. The social utility from production of q is; (pq) and social disutility of environmental damage is; (pd). The production cost 'c' of the factory is determined by total production as well as by the abatement investments required to alleviate the damage. So the cost function is;

$$c = g(q,d) \qquad \text{where } [dc/dq] > 0$$
$$\text{and } [dc/dd] < 0$$

In addition to this private cost a certain amount of public cost have to be incurred in terms of new investments either to improve the air quality or to create favourable environmental condition (i. e. provision for recreational amenities etc). The public cost function is;

$$o = h(d) \qquad \text{where } [dn/dh] > 0$$

Lastly the total contribution of q and d to social welfare 'w' can be written as;

$$w = [pq - pd - g(qd) - h(d)]$$
$$= \{pq - pf(q) - g[q, f(q)] - h[f(q)]\}$$

So for optimal contribution to social welfare;

$$\frac{dw}{dq} = \left\{ p - \frac{df(q)}{dq} - \frac{dq\,[qf(q)]}{dq} - \frac{dh\,[f(q)]}{dq} \right\} = 0$$

$$\text{or } p = \left\{ \frac{df(q)}{dq} + \frac{dq\,[qf(q)]}{dq} + \frac{dh\,[f(q)]}{dq} \right\}$$

This condition states that an optimal level of production and damage is attained if the marginal social utility of production equals the marginal damage cost plus the marginal private cost and abatement cost plus the marginal public new investment cost. The optimal private decision is reflected by; P = MC i. e.

$$P = \frac{dg\,[qf(q)]}{dq}$$

If the monitoring authority imposes a tax 't' per unit of pollution damage then the private revenue 'r' is reduced to;

$$r = [pq - g(q, d) - td]$$
$$= \{pq - g[qf(q)] - tf(q)\}$$

Here the optimal private deciston is represented by;

$$\frac{dr}{dq} = \left\{ P - \frac{dg\,[qf(q)]}{dq} - t.\frac{df(q)}{dq} \right\} = 0$$

$$\text{or } P = \left\{ \frac{dg\,[qf(q)]}{dq} + t.\frac{df(q)}{dq} \right\}$$

Where the product price will include private marginal cost and the marginal pollution tax levied by the govt Hence to compensate the social disutility a tax 't' should be imposed so that:

$$t.\frac{df(q)}{dq} = \left\{ \frac{df(q)}{dq} + \frac{dh\,[f(d)]}{dq} \right\}$$

This implies that the production volume and damage level should be fixed at that limit where the marginal pollution tax should be equal to the marginal pollution damage plus the marginal public damage abatement costs. An efficient tax rate can be computed for each level of production and damage. In spite of many limitations in the practical side in general it may be said here that damage to the environments should be reduced until the marginal cost of further reduction equals the marginal benefits accruing to the society from such reduction. Reducing them means finding a suitable balance between the utility of activities to the society and the disutility they impose which reduced the level of welfare.

Welfare Economics and Contemporary Economic System

(Summary)

G. B. Nath

Bourgeoise economists have built up economic theories on the assumed frame-work of private enterprise system as the only logical and possible frame work. Consequently their analysis has given rise to a-static equilibrium which does not admit any change in the economic institutions. Orthodox economists, we suggest, have given little attention to socialist economics either because they have been absorbed in the realm of pure theory or because they have been devoted to capitalist institutions. Of course Pareto, Barone, Taylor, Knight, Pigou are being exceptions to the bourgeoise campaign, for they have come out from the garb of abstraction and have demonstrated that the formal principles of economics can be applicable to any economic system, capitalism, socialism or communism. Thus these economists though belong to the bourgeoise tradition, yet the socialist owed them a lot. It is they who sharply broke away from the tradition of reaction and accepted the workability of socialism. Yet the socialists were much concerned with their opponents, like Von Misses, the Vienna economist, Professor F. A. Hayek and Lionel Robbins of London School of Economics. Von Misses challenged that allocation of resources is impossible in socialism due to public ownership of means of production and a resultant absence of pricing policy.

But thanks to Enrico Barone for, he has shown that allocation of resources is possible in Socialism through mathematical calculations. Even though Hayek and Robbins accepted the theoretical validity of a socialist state, they raise doubt about the translation of the theory into practice. But Oscar Lange and F. M. Taylor and Robbins not only defended socialism on the ground of rational allocation of resources but also proved its superiority over a competitive market economy. No doubt that "the bourgeoise by the rapid improvement of all instruments of production and by the immensely facilitated means of communication, draws all, even the most barbarian nations into civilisation".....

But the issue is whether capitalism will be able to maintain this tempo of social progress ? The general understanding is that by the last century capitalism reached to the peack of its development. Then capitalism of free competition was superseded by monopoly capitalism—imperialism, the last and final stage of capitalism. Today monopolies of various categories are ruling the economic life of individuals. Cartels, Syndicates, Trusts are the order of the day. Consequently inequality in the distribution of wealth and income, unemployment, price rise, and deflationary tendency, antagonism between labour and capital are getting more and more acute. In such a desperate condition, bourgeoise and revisionist economists dress up modern capitalism as a "Welfare State" or "regulated" capitalism. But the term 'Welfare' may more rightly be affixed to Socialism, for the following reasons.

First, a socialist economy presupposes a central planning authority to co-drdinate the economic activity. There will be comprehensive planning of the economy to avoid any business fluctuations. Second, by eliminating private property and inheritance, socialism will bring about equitable distribution of wealth and income which is urgently required in attaining the maximum social welfare, apart from moral ground. Third, by averting business fluctuation it guarentees employment opportunities. Fourthly, by perfectly accounting for the occupational diseases, industrial accidents, smoke nuisance and such other social insecurity, socialism gives guarantee to the citizens. Capitalism in its imperialist phase is facing a number of contradictions. Some revisionist economist are suggesting state intervention at the time of such crisis. But will it be able to avoid the crisis ? At best it can delay it. Thherefore socialism perhaps is the only answer for guaranting the Welfare to the masses.

Crucial Issues of the Employment Strategy for the Tribal Population of Orissa

B. C. Parida

SOCIAL AND DEMOGAPHIC PROFILE OF THE S T. POPULATION OF ORISSA

As per 1981 census out of 68. 5 crores of people living in India, 51. 63 millions comprising 7.8 percent population of the country belong to Scheduled Tribes as defined under the provision of the Constitution, Seven out of every one hundred Indian are tribals. The number of tribal communities in India roughly is 400. Among the states Orissa occupies an important position so far as tribal population is concerned. As per the last census, out of the total population of 2, 63, 70, 271, the tribals constitute 59,15,067. This is roughly 22. 43 percent of the total population of the state. Therefore out of every four persons one is an 'Adibasi' in our state. There are 62 tribal communities in Orissa as against 400 in India. In the year 1971 the total number of tribal population was 50, 71,937. So there has been an increase of roughly 8. 43 millions during the last decade. The annual growth rate of the general population has been 1.97 percent per annum and the annual growth rate of the tribal population is roughly the same as the percentage rise in the general population per annum.

THE LEVEL OF LITERACY :

So far as percentage of literacy of tribal population is concerned it is 13.95 for Orissa as compared to 16.35 for India (1981 cencus). This is much below the leved of average literacy both in case of India (36%) and Orissa (34. 23%).

UNEMPLOYMENT AMONG TRIBALS IN ORISSA :

While making an estimate of unemployment one has to remember several peculiar characteristics of these tribal population.

In the first place these tribal people suffer from rurality, illiteracy and economic backwardness. As they are capable of doing hard manual work it is resonable to expect lower rate of unemployment

among them. Further the nature of the activities in which these tribals are engaged are more traditional and less remunerative in character. Most of the attached and bonded labourers are also drawn from these tribal groups. On the basis of this, we can examine work participation of tribal people.

The Table below indicates the work-participation rate among the tribals of Orissa. By work participation we have taken the census definition of proportion of workers to total population. Among the workers we have included main workers plus the marginal workers.

From the table showing the work participation rate in both 1971 and 1981 census we find that among the scheduled Caste population the work participation rate was 55.8 percent in 1971 which increased to 58.25 percent in 1981. Among the females it was 11.1 percent in 1971 which increased to 29.58 in 1281. On the whole, 42 percent of the total scheduled caste population are engaged in the work activities. The corresponding figure for the scheduled Tribes was 58.9 percent for males and 11.0 percent for females in 1971 and in 1981 it is 62 percent for males and 37.4 percent for females and on the whole it has been 49.5 percent or say 50 percent of the total population.

This figure has been contrasted with the results of work participation rate among the tribals of Koraput District which has got near highest number of S. T. population in the State. As per the census figure of the 1981, the work participation rate among the tribals is 65 percent among the males and 40 percent among the females and on the whole it is near about 53 percent. This is higher percent in comparison to state level-tribal population which is 50 percent and for the general population which is 38 percent. Therefore the foregoing analysis indicates that the work participation among the tribals is higher than that of general population at the state level. It is the highest in the district of Koraput. Secondly, the work participation rate among the females among the tribals is much higher than the non-tribal population. Thirdly, the percentages of cultivators and agricultural labourers are found more among the tribals than that of general population. It may be pointed out here that though on the whole the percentages of agricultural labourers and cultivators have decreased in 1981 census in the country, it has increased in case of Orissa in the last census.

What may be the causes of the possible explanation for the higher work participation rate among the tribals. Studies made by Prof. M. L.

TABLE—1

Table showing the work participation rate among the Tribals of Orissa

State	Year	Percentage of Schedule Population			General Population			Scedule Cast Population			Schedule Tribe Population		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Orissa	1971	15.1	23.1	38.2	55.62	10.47	33.19	55.8	11.1	—	58.9	11.0	—
Orissa	1981	14 66	22.43	37.09	56.12	19.68	38.06	38 06	58.25	42	62.05	37.4	49.5

TABLE—2

Table showing the working population of Koraput District with highest number of S.T. Population

Year	Total Population	S.T. Population	Percentage of General Population	Percentage of main Workers to total Population	Work participation Rate		
					Male	Female	Total
1981	2467329 (11.35 urban)	1371550	55.59 or 60	39.03	65.38	40.64	52.41

DANTWALA and others indicate that these tribals are not selective nor discriminating in the choice of their employment. Nature of the job is not a consideration for these people as in the case of upper social groups. Secondly, it has been pointed out by scholars like V. B. Sing, and K. Varadwaj that the tribal works for more hours per day and more days per year than the non-scheduled population. Thirdly, 'Danial and Alish Thorner in their book "Land and Lobour in India" have pointed out that majority of the attached and bonded workers belongs to scheduled caste and scheduled tribe. This has been made possible because of the peculiar agrarian structure prevailing in India.

Review of the Employment Schemes for Tribals

Since indipendence a number of schemes have been initiated for improvement of the lot of the tribals. Soon after independence the national leadership faced a three fold task in respect of the tribal communities :

(A) To remove two-way comunication gap between the tribal communities and their neighbours, in the over all frame work of national integration.

(B) To protect the resource base and cultural apparatuses which can provide the basis for collective efforts for meeting the Modern Challange.

(C) To initiate measures for meeting the minimum needs for the tribal population and for facilitating the process of participatory development.

During the three decades for plan era several employment schemes which are adhoc in nature were undertaken to provide relief to the tribals like minor irrigation, land reclamation or public-work programmes like road construction or bunding which provide supplementary and seasonal employment. In the next phase some of the schemes like M F.A.L., S.F.D.A, D.P.A F, I.R.D. and R.L.E.G.P. have been undertaken to create productive assets for the tribal target group. Now at the present stage the emphasis is on participatory development with focus on self management harnessing the productive forces for meeting the basic needs as well as for contributing to the national objective as self relient growth is gaining momentum.

During the fifth plan Integrated Area Development Approach was adopted. It delineated the area of tribal concentration having substantial

tribal population and introduced intensive Tribal Development Area projects. In blocks having dispersed tribal population Modified Development Approach (MDA) was adopted. For this tribal Sub-plans were drawn up for the respective states. By 1983-84, 75 percent of the tribal population has been covered by this plan. When one reviews the plans and programmes for generation of employment of these plans the following defects have been found out. Firstly diverting the tribals from their traditional occupations into more productive and remunerative activities have not met with the considerable measure of success. Secondly, their wage-rates have not been very high, some people have justified low wage rates on the ground of continuous employment. The work programmes designed for their welfare donot take into considerstion the skills of these people. The scheme should induct an element of skiil formation among these workers. In this connection it has been observed that in many public sector undertakings, jobs reserved for these candidates could not be filled up because of lack of suitable qualified candidates. In this connection it may be said that their literacy has been kept at a very low level.

Many of the tribal labourers lack social mobility and they are unwilling to take up works out of their farms. Sometimes they become non-responsive, they register for work but donot report for it.

The relief nature of the employment schemes also discourages them to accept any scheme of poverty eradication by leaving their traditional occupation.

(A) Proposed strategy for Agriculture :

(A) Agriculture would appear very important for the improvement of the conditions of these tribals. Tribal agriculture is divided into settled and shifting agriculture. So far as shifting agriculture is concerned the strategy would be to wear them away from the shifting agriculture to other productive endeavour. Horticulture has been suggested as one of such alternative strategy. In this context development of community land, foot hill area development and development of small scale processing unit as an alternative occupation to "PODU" cultivation can be taken up.

So far as settled agriculture is concerned it has been suggested to have joint co-operative farms under the supervision and the direction of a suppervisor appointed and paid by State by having state managed community farms of two to three hundred acres with some irrigation

facilities for forty to sixty households. The supervisors could also provide them minimum wage for maximum number of days in those settlements by employing them in agricultural and allied activities. This supervisor should have a man of high managerial talent and ability with innovative spirit and touch of idealism to motivate the tribals to work in the farm. But the success of such a scheme depends upon the supervisor who is the key-personnel of the farm and to findout such dynamic managers may be initially difficult. But once this scheme goes through, this has a fair chance of success.

(B) Forestry and Food Gathering :

This is an area where better employment opportunities can be provided to Orissa tribals As land is to the tiller so forest is to the tribal. Commercialisation of forest products and produces have unsettled conditions in the tribal regions. It is a supplementary source of livelihood for them. Afforestatihn measures, soil conservatton, road construction and finally estabiishment of forest based industries with the participation of the tribals may be other sources of increasing employment opportunities.

(C) Skill Formation :

Thirdly, skill formation and human resource development are other areas for augmenting employment opportunities. The tribal education has not expanded as per expectation because education becomes an alternate to bread.

Infrastructural constraints like school environment and environment of the habitants differ. Most important obstacle is the provision of instruction through language other than mother tounge Therefore we have to not only establish schools to teach through mother tounge but also have to compensate the parents for not engaging the children in economic activities at the tender age. Rural work programmes should have an inbuilt strategy for skill formation. Critical infrastructures like primary schools and roads joining the tribal villages with the market centre should be established.

Individual Beneficiary Oriented Programmes :

Individual beneficiaries oriented programmes like I.R.D., E.R.R.P. and R.L.G.P. are also sources of both creation of productive assets and generation of employment. Such programmes are intended to eliminate poverty. These programmes become successful where the content of

the programme and the needs of the beneficiaries match equally. They must be given those benefits for which they are prepared traditionally, such as fruit growing in hill areas and not jersy cows-rearing. Secondly, stronger the vertical and horizontal linkages, the programmes are more successful like linkage with inputs and marketing. Thirdly, the weaker sections will benefit from such programmes when their services are so designed that their appropriation by others is rendered difficult and non-profitable. For example, the programme of leather work or sheep breeding will not attract others as increase of agricultural inputs. Fourthly, the stronger is the participation and involvement of the beneficiaries the greater is the chance of success such as face to face interaction at the time of indentification and implementation of the programme. Lastly less is the institutional and technological barrier, higher is the rate of benefit such as village camps of selection of village level worker from among the villagers.

(7) Viewed in this context beneficiary oriented antipoverty schemes should be so designed that the land of the Adivasies should not be transferred to any account nor the products he sells should be undervalued in the markets. All the Tribal Sub-plans should not be only the addition of the department schemes.

(E) Organisation of the poor to stop the leakages in Re-distribution programme :—

Organisation of the tribals is expected to improve their bargaining power and to enable them to get their due share in the benefits of the programme intended for them. The "Approach Document of the seventh plan while waking a reference to it indicates that "In the ultimate analysis the removal of poverty can be fulfilled in the measure in which the poor themselves become organised and assert themselves Gulnar Myrdal has refferred to such organisation of the poor to exert pressure from below far poverty eradication, so that the beneficiaries become the active participant of the programme rather than becoming the passive recipients.

One important thing is that the leadership for such organisation of the poor should come from within. Experience has shown that the emergence of the organisation of the tribal by 'DALIT PANTHER' has either come from educated among the tribals and in some other cases it has passed to the hands of the outsiders, and as such there is a chance of such organisation being manipulated and misled.

Conclusion :

Any programme of the tribal development should be inter-disciplinary in character. Inter communication among plannig and implementing agencies, academics of different disciplines interested in the tribals and spokesman of the different tribal Forums is necessary to correct the situation, otherwise the planning for the tribals will be a gamble in the ignorance.

Economic Benefits of New Wells in Tribal Areas of Keonjhar District, Orissa

Dr. J. P. Singh, H. N. Atibudhi and D. Naik

In a country like India, with several pockets of low and precarious rainfall, the need for irrigation is obvious. Although the area under irrigation expanded greatly in recent years, there are still numerous tracts in which the agriculturists' greatest need is an assured water supply and in which water is the most potent agent for increasing the yield of crops.

In the last two decades of planning in India, high priority has been given to major and medium irrigation projects, for increasing agricultural production. Inspite of such programmes, only 20 percent of the cultivated area receives irrigated water, obviously, there are definite limits for bringing additional areas under irrigation

Wells, as a source of irrigation water have unique place in a peasant type of farming in our country. The work of construction of wells classified under "Minor irrigation schemes" involves low capital outlay as compared to major and medium irrigation projects, yields quick results and can be undertaken by individual farmer if financial assistance through institutional agencies is provided. During the Five Year Plans, particularly after the second plan, high priority has been given to the programme of construction of wells and installation of diesel/electric pumpsets on these wells. As a result, the proportion of the area irrigated by wells out of the total irrigated area in India increased from 28.7 percent in 1950-51 to 37.8 percent in 1970-71. In Orissa this proportion was as high as 17.6 percent in 1980-81.

The specific objectives of this study are to estimate the cost of installation of new wells and to evaluate the economic benefits from new wells through changes in cropping pattern, intensity of cropping, level and use of other resources and income.

A multi-stage random sampling technique adopted for this study to select the ultimate unit of the sample.

The selection of the block forms the first stage in sampling. Ghatgaon block was randomly selected from among the blocks having dugwells.

The selection of the village the second state in sampling. A list of villages having dugwells was first obtained. Out of these villages only four villages were selected at random for the present study. The villages thus selected were Badajamposi, Chhatia, Raghubedha and Pipilia. The selection of farmers forms the ultimate unit of sampling. For each of the selected villages, a complete list of dugwell beneficiaries was prepared. All the beneficiaries (55 nos) from the above 4 villages were taken for this study. These beneficiaries were then classified into small, medium and large farms.

FINDINGS

COST OF INSTALLATION OF NEW WELLS

Disbursement of Loan :

Details regarding the amount of loan demanded, amonnt sanctioned etc. reveal that the average amount of loan demanded by the sample farmers was Rs. 4000/- in case of small, Rs. 4300/- in case of medium and Rs. 3150/-, in case of large farms, the average being Rs. 3816.36. However the amount demanded was not sanctioned and the amount sanctioned was not either fully disbursed or lifted by the borrower farmers. The average amount sanctioned and disbursed at the overall level worked out to Rs. 2651.82 and Rs. 2425/- respectively. The amount disbursed thus forms 91.45 percent of the amount sanctioned by the lending agencies. Among different size groups, this proportion varied between 90.91 and 92.04 percent.

The proportion of amount sanctioned to amount demanded worked out 69.49 percent, while the amount actually disbursed was 63.54 percent of the amount demanded. Thus, the short-fall was nearly 36 percent, which was met from other sources.

Utilisation of Loan :

As regards utilisation of loan, it was observed that, all the farmers in the sample did not utilise the loan fully and not also for the purpose for which they took the loan. Out of 55 farmers in the sample, 46 farmers (i. e., 8 farmers in small, 19 farmers in medium and 19 farmers in large farms) utilised their loans for the construction of new wells. Only 9 farmers (i. e., 4 farmers in small, 4 farmers in medium and 1 farmer in

the larger farms) utilised their loans either for new wells, in which water did not strike and therefore proved failure or for repairs to old wells or for construction work left incomplete or for other purposes.

In absolute term, the average amount diverted at the overall level was Rs. 94.33. The percentage of such amount to the net amount of loan increased with the decreasing order of loan size. It was the highest (about 7.08 per cent) in the lowest loan size (large farms) while the same was the highest loan size group (medium farms). On an average, it was about 3.86 per cent. From the above analysis, it is evident that, quite a large portion of the loan was utilised for the intended purposes and only a small portion of it was diverted to other purposes.

Size of Wells :

Depth and diameter determine the size of the well. One has to go deep till the water is struck in a well and therefore there seems no choice for depth. Individual farmer tries to adjust the diameter of a well and keeps the volume of well within his financial limits by reducing cost of digging and construction.

Data collected show that there was inverse relationship between depth and diameter of wells. In shallow wells (up to 20ft. depth) diameter was more (11 ft.) while in deep wells (above 40 ft. depth), diameter was found to be reduced to 9.17 ft. This might be due to the fact that in deeper wells, proportion of hard rock being more, the cost involved for digging is more and therefore there is reduction in diameter so as to reduce the size of well. The average depth and diameter of sample wells were 31.91 and 10.36 ft. respectively. The average depth at which water struck was 26.24 ft.

The time period required for completion of a well varied from 82 days for a shallow well to 129 days for a deep well and the average period required was 129 days.

Cost of Wells

Item wise breakup of cost for new wells shows that the cost of wells was found to increase with the depth of the well. The total cost was Rs 2531/- for shallow wells (up to 20 ft.) and Rs 2913.82 for deep wells (above 40 ft.), the average cost per well being Rs 2877.94. It was observed that the cost, both on labour and materials required for digging

increased with the increase in the depth of the well, both in terms of absolute amount as well as in terms of percentage of total cost On the other hand, the cost of construction decreased with the increase in the depth in terms of percentage of total cost In shallow wells, the cost of digging was Rs 825.00 (32.60 per cent), while in deep wells, the cost of digging increased to Rs 1076.33 (36 94 per cent). The average cost of digging being Rs. 1401.5 (48.70 percent). The costs of construction of shallow and deep wells were Rs 1297.00 (51.25 per cent) and Rs 1258.66 (43 19 per cent) respectively. The average cost of construction was Rs 1358.65 (48.15 per cent).

The comparison of cost on digging and construction among different sizes of wells indicated that, in shallow wells, the proportion of cost of digging was low (47.57 per cent) as compared to the cost of construction (51.25 per cent). The picture was reverse in deepwells, where proportions of costs on digging and construction were 52.19 and 43.19 per cent respectively. The average proportions of costs on digging and construction were 48 70 and 48.15 per cent, indicating thereby that the digging work required larger amount than construction. The other expenses on an average were Rs 90.75 (3.15 per cent).

Economic Benefits of New Wells

The economic benefits accrued to the farmers from the construction of new wells have been assessed through the following parameters, They are :—

a) Increase in irrigated area,

b) Cropping pattern,

c) Intensity of cropping,

d) Yield of major crops, and

e) Net farm income.

(a) Increase in Irrigated Area :

Increase in irrigated areas provides a direct measure of the benefit received by farmers for investment in well irrigation. Area irrigated before and after new wells in the command area of wells indicates that the average area irrigated before and after new wells, at the overall level was 0.04 and 0.18 hectare respectively and the increase in area was 0.14 hectare. The irrigated area in respect of all sample farmers also showed a sharp increase in the post investment period. While the average irrigated

area increased from a mere 0.02 hectare to 0.14 hectare in case of small farms, it increased from 0.04 to 0 17 hectare incase of medium farms and 0.06 to 0.21 hectare incase of large farms The net increase in the irrigated area worked out to 0.12, 0.13 and 0.15 hectare in small, medium and large farms respectively. Evidently, the area brought under irrigation by the sample farmers is quite appreciable.

(b) Cropping Pattern :

Comparable data on cropping pattern followed by different categories of farmers in the area before and after well irrigation indicate that the food crops dominate the cropping pattern on all farm categories in the area.

At the aggregate level, all food grain crops together accounted for nearly 80 per cent of gross cropped area, while about 20 per cent of the gross cropped area was utilised for growing non-food grain crops before well irrigation.

Within the food grain crops, local varieties of paddy accounted for 58 per cent of the gross cropped area, while the area under high yielding varieties of paddy was found to be 5.90 per cent of the gross cropped area. Next to paddy was higer, which constituted about 9.26 per cent of the gross cropped area. The proportionate share of vegetables was found to be 5.47 per cent, before introduction of well irrigation.

A comparison of the cropping pattern in the post investment period (afetr well irrigation) revealed that the area under all food grain crops decreased and the area under non-food grain crops increased. Among food grain crops while the importance of local varieties of paddy in all farm size groups remained almost the same, the relative importance of high yielding varieties of paddy increased in the post-investment period. The most spectacular increase was noted incase of vegetables; which was 11.83 per cent. There was not much change in the area of the remaining crops in the post investment period.

(c) Intensity of Cropping :

The overall cropping intensity before and after wells was 118 20 and 127.74 percent respectively and the net increase was 9.54 percent. The higher intensity cropping in the post investment period indicates that the sample farmers have cultivated their land more intensively than before.

Among different size groups, the net increase in the intensity of cropping, varied from 6.17 percent in large farms to 19.72 percent in small farms. Thus increase in the intensity of cropping was found to be highest in small farms followed by medium and large farms.

Thus the improvement in the provision of assured irrigation has enabled the sample farmers to adopt double/multiple cropping and also to raise intensity of cropping in the area.

(d) Yield Rates of Principal Crops :

The average yield in case of all the selected crops was higher in the post-investment period than in the pre-investment period. For example, the average yields of local and high yielding varieties of paddy in the post investment period were 16 24 and 25.43 quintals per hectare respectively as against a corresponding figure of 15.29 and 23.33 quintals per hectare in the per-investment period Similarly in the case of vegetables, the average yield per hectare was 63.86 and 76.27 in the pre and post investment respectively. Among the remaining crops, the average yield of sesamum and niger was 4·53 and 3.75 quintals per hectare respectively before investment on well irrigation which increased to 4·80 quintals in case of sesamum and to 3.89 quintals per hectare in case of niger after investment on wells. Evidently, the average yield of all the selected crops was higher in post-investment period than is pre-investment period.

(e) Net farm Income :

The average net farm income (on per farm basis) earned by the sample farmers before and after new wells amounted to Rs. 2832.31 and Rs 3216.30 respectively. Thus, the farmers in the post-investment period realised higher net farm income than in the pre-investment period.

The net farm income (per farm) does not however provide a measure of comparison between the house holds with holdings of unequal size. In fact, per hectare net farm income is a more reliable index of comparison than the average net farm income.

Collected data indicates that per hectare net farm income earned by the farmers before new wells averaged Rs. 12.44, Rs 1329.28 and 1492.13 and that after new wells it averaged Rs. 1507.37, Rs. 1533.52 and Rs. 1664.55 in case of small, medium and large farm respectively. Thus the beneficiary farmers in all the size groups managed to earn a higher net farm income after the investment period.

An examination of the per hectare incremental income earned by the farmers revealed that the sample farmers as a whole managed to realise an incremental income of Rs. 193.51 per hectare, which varied from Rs. 172.42 to Rs. 263.10 per hectare in different size groups. Among farm size groups, small farmers earned higher incremental income than the other two categories of farmers. Thus, investment on new wells has made a significant contribution towards raising the per hectare income of the farmers.

Conclusions :

From the results discussed, certain conclusions are relevant for policy decission.

The capital investment provided by different banks helps in developing sound infrastructural facilities in farms for promoting further capital formation. Once a strong resource base is created, an equally important task is to promote its effective use. Extension agencies will have to play a key role in future to educate farmers on sound resource management practices. The scarce resource especially the under ground water would substantially contribute for efficient use of other production inputs by formulating an integrated plan of action.

Impact of Development Schemes on Tribal life and Economy–case study of a District

P. K. Chhotroy

Introduction :

The extension of canal irrigation in tribal area fosters a process of cumulative advancement in non-tribal villages and tends to help monopolisation of means of production in the hands of non-tribals. Modern farm communities become prosperous in non-tribal villages whereas the tribal villages remain in back water. The socio-economic distance between the tribals and non-tribals increases over time leading to the emergence of dual economy. The mechanism through which dual societies develop is well explained as a process at cumulative causation.

Hypotheses :

Irrigation plays a crucial role in sustaining the progress of the primary sector, developing the secondary and tertiary sector and increasing the level of income and employment. To analyse the impact of irrigation on the tribal economy the following hypotheses have been tested in the succeeding sections on the basis of a survey conducted in the tribal and non-tribal villages located within the command area of Salki Irrigation Project of Phulbani District.

I) That with the extension of canal irrigation the farm economy of Salki command areas has made remarkable achievements.

II) That the productivity of crops and increase income and employment are comparatively higher for the non-tribals than the tribals.

III) That the tribals have not yet exploited the profitability of scientific cultivation and modern inputs.

IV) That investment in economic infrastructure in a typically backward and tribal area leads to the emmergence of a dual economy.

Methodology:

This paper examines the socio-agro-economic conditions of the tribal components of the sample farmers in comparison with the non-tribals in the context of irrigated farming. The sample design of the study is a startified multistage random sample based on tribal population. The relevant data were collected through questionnaire by direct interview method. The data pertain to agricultural year 1983-84.

The Landibandh village of Harabhanga block and the Janahapank village of Boudh block in the district of Phulbani have been statistically selected fot this study. The sample households were selected randomly. The total sample of the study consists ot 45 households representing 20 percent of the households of the respective villages.

A profile of Tribal economy and sample villages

The Landibandh is a purely tribal village inhabited by the Gond tribe. The Gonds depend on farming, collection of minor forest produce, mat weaving and occasional hired labour to earn their livelihood. They have adopted settled cultivation with individual onwership The village has 142.42 acres of irrigated and 274 acres of unirrigated agricultural land. The per capita land holding of sample households is only 0 66 acre. The households having no draft animal, no cows or goats and no cart constitute 17 per cent, 56 per cent and 78 per cent of the sample respectively. Literates constitute 5 per cent of the sample and there was a fall in literacy by 33% over the decade 1961-71. It is a typical tribal village with all the features of tribal economy. The tribal economy, in the absence of elaborate and complex systems of production and distribution, is so simple that, the problem of fulfilment of physiological needs is paramount. The tribal economy is centered around agriculture and forest wealth. The rhythm of human activities, economic and non-economic moves with the change in seasons without planning. A tribesman believes that the success of farming depends on religious rites. They have plenty to eat at the time of least agricultural work but little to eat when the field requires streneous work. Craft specialisation does not provide a living for which the craftsman adopts multiple

occupation. Weekly market is a unique socio-economic institution of the tribal area. Whether the tribesman has anything to exchange or not he must visit it to meet his friends and relatives. A tribal is not swayed by economic considerations alone. Life to him is larger than mere food and sustenance. His rational is one of convention and its sanction is that of tradition. The simple minded tribals fall to catch up with the speed of modernisation due to the presence of some sort of socio-economic dilemma in the tribal society.

Nanahapank, a non-tribal village of Salki command areas has a population of 785 (1981 census) and irrigated land of 227.18 hectares. It is a purely agricultural village with 105 operational holdings. Khariff paddy is the principal crop of the village. Patato, Wheat and Sugar-cane are now grown in irrigated farms.

The Project :

Salki irrigation project, with a weir across river Salki at Paljhar covers a culturable command area of 49,000 acres of Khariff and about 2,000 acres of Rabi crops in the Boudh Sub-Division of Phulbani district. It covers a fairly large area of Boudh block and a part ol Harabhanga block. The construction of the project was undertaken during the 2nd plan period and completed during the 4th plan period with an original estimated cost of Rs. 52.85 lakhs, which increased up to Rs. 225.75 lakhs in the third revised estimate. It started supplying water for irrigation from 1961-62 and achieved the present irrigation potential from the year 1976-77. A fairly large number of villages (215) are benefited by this project and its benefit cost ratio was calculated at 12.39 (12.39 benefit : cost).

Productivity of Crops :

The study shows that, the extension ol canal irrigation has positively affected the yield potential of crops in the command area of Salki irrigation project.

TABLE—1

Productivity of Crops

Crops	Quintals per acre							
	Non-tribal area				Tribal area			
	Small Farmers	Marginal Farmers	Medium Farmers	Average	Small Farmers	Marg Farmers	Medium Farmers	Average
Paddy	9.32	7.93	14	11	1.50	4.63	4.77	4
Wheat	3.60	Nil	Nil	3.60	Nil	Nil	Nil	Nil
Sugarcane	19	21	Nil	22	Nil	Nil	Nil	Nil
Patato	52	48	55	56	Nil	Nil	Nil	Nil

Table—1 shows that the average yield of paddy per acre is 11 quintals in non-tribal area, as against 4 quintals in tribal area. The average yield of sugarcane and potato per acre in non-tribal area is 22 and 56 quintals respectively. This is closer to the state average of closer to the state average of 61.09 quintals per hectare for sugarcane and higher than the state average of 72.11 quintals per hectare for potato. The average yield of wheat per acre is 3.60 quintals which is much lower than the state average of 17.88 quintals per hectare. In tribal area the small farmers have the lowest yield of paddy per acre (1.50) followed by marginal farmers (4.63) and medium farmers (4.77).

Cropping Pattern :

In non-tribal villages the cropping pattern is more diversified and the intensity of cropping is higher than the tribal villages. Along with HYV and improved varieties of paddy, the cultivation of potato and wheat is a new phenomenon in the non-tribal area. The other remarkable change rs the growth of area under sugarcane. The sample village of tribal area is a purely mono-crop village with only Khariff paddy. Farming of Rabi crops is totally absent.

TABLE—2

Cropping Pattern

Area under crops in Acres

Crops	Non-tribal Area				Tribal Area			
	Small Farmer	Marginal Farmer	Medium Farmer	Aver-age	Small Farmer	Marg. Farmer	Medium Farmer	Average
Paddy	25 (96.15)	29 (96.66)	44 (100)	98 (98)	18 (100)	20 (100)	50 (100)	88
Patato	2 (7.69)	1.50 (5)	2.50 (5.68)	6 (6)	Nil	Nil	Nil	Nil
Wheat	0.30 (1.15)	Nil	Nil	0.30 (0.3)	Nil	Nil	Nil	Nil
Sugarcane	0.30 (1.15)	0.30 (1)	Nil	0.60 (.6)	Nil	Nil	Nil	Nil
Cropping Intensity	106.15	102.66	105.68	105.99	100	100	100	100

Figures in bracket indicate percentage of holding under crops

Table—2 shows that the small farmers of non-tribal area have utilised 7.69 per cent, 1.15 per cent and 1.15 per cent of their holding for the cultivation of potato, wheat and sugarcane respectively. Due to this their intensity of cropping is comparatively higher (106.15) than the average in the sample (104.99). The tribal farmers cultivate only khariff paddy and their intensity of cropping is 100.

Technological change :

The study reveals that the extension of canal irrigation has transformed agriculture in non-tribal area with the use of modern inputs. The tribal farming has remained at a primitive and subsistence level, with only a protective role for irrigation.

Table—3

Use of HYV/improved seeds, fertiliser and pesticide

Categories of Farmers	%of Holding under impro-ved seeds	Fertiliser per Acre in Rs.	Pesti-cide per acre in Rs.	%of Holding under Impro-ved seeds	Fertili per Acre in Rs.	Pesti-cide per Acre in Rs.
Small Farmers	12	103.60	7.50	Nil	Nil	Nil
Margnial Farmers	10	90	6.75	Nil	Nil	Nil
Medium Farmers	47	154	13.88	2	14	Nil
Average	20	102 (433)	6.38 (43.77)	1.13	8	Nil

Figures in bracket are for crops other than paddy

Table—3 shows that, area under improved varieties of seeds constitute 20 per cent of the holding for the non-tribal farmers and 1.13 per cent for the tribal farmers. The per acre use of fertilisers in terms of rupees is Rs 102/- for Khariff paddy and Rs. 433/- for other crops in non-tribal area. The tribal farmers have used fertiliser only for khariff paddy and their average consumption is only Rs 8/- per acre. The use of pesticides in non-tribal area is directly related with the size of land holding as the medium farmers have spent the highest amount on pesticide (Rs 13.88 per acre) followed by marginal farmers (Rs 750) and small farmers (Rs 6.75). The use of pesticides is totally absent in tribal area.

Employment :

The induced effect of irrigation has resulted in explansion of employment opportunities both for human and bullock labour by change in the number and range of new operations in farming.

Table—4

Human and bullock labour

Per Acre

Categories of Farmers	Non-Tribal area		Tribal Area	
	Human labour days	Bullock labour days	Human labour days	Bullock labour days
Small Farmers	62	12	46	6
Marginal Farmers	58	11	48	8
Medium Farmers	56	11	47	10
Average	60	11	44	8

Table—4 shows that the non-tribal farmers with a higher cropping intensity (104.99) have employed 60 days of human labour and 11 days of bullock labour per acre. This is higher by 36 per cent for human labour and 37 per cent for bullock labour from the tribal farmers.

Income :

Irrigation leads to the increase in productivity of land and thereby the income of farm families. There is a marked disparity in the level of income between the tribal and non-tribal farm families.

Table—5

Farm Family Income

in Rs.

Categories of Farmers	Non-Tribal Farmer Income per Household	Tribal Farmer Income per Household	% Difference
Small Farmer	2297	736	68
Marginal Farmer	3755	907	76
Medium Farmer	14106	4398	69
Average	4876	1839	63

Table—5 shows that the average income per farm household is Rs. 4876/- for non-tribal and Rs 1839/- for tribal farmers. There is a wide difference of 63 per cent in the level of income of tribals and non-tribals.

Findings :

The study, subject to its limitations, thrown some light on the socio-agro-economic impact of irrigation on tribal agriculture within the commend area of Salki irrigation project. Some of the important findings are noted below.

1—The average productivity of crops for the tribal farmers is lower than the non-fribal farmers.

2—The use of HYV and improved varieties of paddy is negligible in tribal farming. Cash crops and mixed cropping is totally absent. The cropping pattern of non-tribals is more diversified and commercialised.

3—The tribal farmers are yet to exploit the profitability of the modern inputs and the efficient use of water. But their counterparts are more progressive, enterprising and innovative in farm practices.

4—Due to the low intensity of cropping and the absence of mixed cropping the employment opportunities are comparatively lower in tribal farms.

5—The assured supply of water has added to the inequality of income at the intrafarm level leading towards the emergence of a dual economy in tribal area.

Test of the Hypotheses :

It is evident from this empirical study that, the hypotheses are true and well tested. The statistical evidence clearly shows that, the tribal farmers have considerably lagged behind their non-tribal counterparts in respect of the farm investment made, farming technology used, and farm family incomes realised. In a typically backward and tribal area, investment in economic infrastructure like canal irrigation leads to the emergence of a dual economy. Modern farm communities grow prosperous in non-tribal areas leaving the tribal economy in a backwater.

Suggestions :

The prime need of the tribal economy is the transformation of tribal agriculture into modern agriculture. An integrated and coordinated effort on the following aspect is necessary to improve the technological level of agriculture, to ensure the full and efficient utilisation of the irrigation potential of the project and to eliminate the differences between the tribal and non-tribal farmers. To treat tribals on par with others is not realistic. They need special attention.

Impact of Development Programmes on Tribal People of Some Villages of Kerandimal in Ganjam district, Orissa

N. C. Sahu

There are 62 tribal ethnic groups in Orissa with a population of 59.15 lakhs (1981 census) which constitute 22.43 percent of the total population of the state. About 90 percent of the tribal people are below the poverty line and their economy is extremely backward. Special attention is being paid to the upliftment of the tribes through the implementation of micro development programmes in different areas of the state where the tribal concentration is high. But certain pockets having low concentration of tribal people do not come within the sub-plan area. Kerandimal in Ganjam district is one such area. The developmental schemes that are in operation in the area include the Intergrated Rural Development Programme (IRDP), Economic Rehabilitation of the Rural Poor (ERRP), National Rural Employment Programme (NREP) and the socio-economic programmes of a voluntary organisation—the 'Gram Vikas.' This paper purports to evaluate the impact of these programmes on the tribal people of Kerandimal.

The Kerandimal hills are 5 Kms away from Berhampur in the South-West direction. The hills occupy an area of 1036 sq. Kms in the triangular meeting ground of three blocks namely Kukudakhandi, Digapahandi and Chikiti where about 12000 Adibasis live in 110 scattered small villages I conducted a quick survey in 5 out of 22 tribal villages of Kankiya Panchayat (12 Kms from Berhampur) in Kukudakhandi Block. Almost all the households have taken loans under the development programme for one purpose or the other. 38 beneficiaries out of 159 households in all the villages were approached with a small and simple schedule. The collected data were collected analysed to study the impact of the programmes.

The tribal Economy of Kerandimal and the 'Gram Vikas'

People belonging to the 'Kondh' tribe live in scattered hamlets of 10 to 40 houses on and around the Kerandimal hills. Their main sources of living are the meagre earnings from firewood, 'bagada chasa' (local

name of shifting cultivation), different fruit trees and small holdings of low quality land. With denudation of forests, life of the people on the hills tend to be miserable Consumption of liquor is a traditional custom. The age-old home-distilled Mohua liquor has now yielded place to a country liquor on account of scarcity of Mohua flower. The liquor has been commercialised by 'Sundis' who are sources of exploitation. The Amonium sulphate which the new alcohol contains is responsible for the widespread T. B. Malaria is another widespread affliction. The Adibasis are mostly illiterate. There is roughly one literate in a family of 5 members. Secondary education has made beginning. There is hardly a matriculate in the entire range of hills,

The Adibasis of Kerandimal are in a process of transition and acculturation. They speak a tribal language akin to 'Kui' of Phulbani. They also know Oriya. People on the foothills talk Oriya more fluently than those on the hills They do have continuous contact with the non-tribals who are very close to them. Some of them come to Berhampur once or twice a year either for work in the court or for purchasing essentials for ceremonies. Though the traditional form of marriage and 'Makara Parba' continue in the tribal community, the dress habits, daily prayers of certain individuals and mass 'Kirtan' in the evenings suggest that people are being assimilated, though slowly, with the non-tribal Oriyas.

The socio-economic climate of the area started to change after the 'Gram Vikas' arrived in 1977. An independent people's organisation called 'Kerandimal Gana Sangathan' was formed and registered as a society in 1979 with the initiative of the 'Gram Vikas'. People from 100 villages take part in the mass organisation. Its basic objectives are to arouse a sense of dignity among the tribal people, propagate against drinking and make them free from exploitation. Both the organisations make cooperative effort to liquidate tribal indebtedness and redeem mortgaged property. In 4 villages 11.40 acres of land and 79 mango, jackfruit and tamarind trees belonging to 30 loanees which were under mortgage for periods between 1 and 50 years were redemed with a payment of about Rs 6,000/- till 1981. They mobilised small savings to the tune of about Rs 3 lakhs in the area upto 1981. Initially, the 'Gram Vikas' advanced interest free loans for consumption, purchase of assets, land development and repayment of loans from the money-lenders. These loans have mostly been cleared by the tribal people, for whom the United Commercial Bank. Mohuda now remains the Principal banker The 'Gram Vikas' has a team of workers in different parts of Kerandimal who attend to the medical problems of the tribals, impart

education to the adults and assist the Gana Sangathan to establish itself. The organisation now concentrates on education. The Kerandimal M. E. School, Konkiya and the hostel receive full financial assistance from 'Gram Vikas.'

Impact of Programmes :

Out of the five villages visited, three villages namely Konkiya, Purunapatna and Rampalli are on the foothills and two orhers-Koilikote and Sarakat are on the hill tops. Konkiya being the Panchayat headquarters has edge over other villages as far as the infrastructural facilities are concerned. While the villages on the foothills are served by roads, the two villages on the hills are connected by jungle paths. Electricity, M. E. School and the Service Cooperative Society have been of distinct advantage to the people of Konkiya.

All the respondents received loan for different purposes only under IRDP which stipulates a 50 percent subsidy. ERRP and NREP have marginally touched the villages. Recently 10 households from each village have been identified for ERRP.

Out of 38 households, 6 are landless, 27 families own land upto 3 acres and 5 have-land holdings between 4 and 10 acres. In addition to land, they own house, trees, bullocks, cow, goat. pig and fowl. The average value of the property owned by landless people is about Rs 2000/-. Households who have land upto 3 acres own property worth Rs. 6,000/- on an average. For the tribal farmers having more than 3 acres of land, the value of property varies from Ra. 2,5000 to Rs. 50,000/-.

Loans Distribution and repayment :

57 loans were given to 38 beneficiaries in the 5 villages. The 10 beneficiaries of Konkiya received maximum number of loans (22) for nine different purposes. In all other villages except Rampalli, loans were disbursed for three purposes. In Rampalli, only one category of asset (bullock pair) was financed. In Konkiya. 6 persons having either 3 or more acres of land received three loans each, of which 5 are crop loans which are cleared and received every year. While these five persons received their second loan for etectric pumpsets only after clearing their first loan for dugwells, one beneficiary holds three loans for land levelling, small business and purchase of a cycle without any repayment.

In the villages Purnapatna and Koilikote 3 and 4 families respectively have received their second loan for land levelling after clearing their first loan for bullock pair or and levelling. In Rampalli and Sarakat each beneficiary received one loan.

Arround 40 percent of the total net loan amount of all the villages has been repaid. Out of 57 loan units, only in case of 17, the loans have been fully cleared. In all other cases, the percentage of loan amounts repaid varied from 9 to 91. In only one village-Sarakat, which is on the hill top, all the loans have been repaid since 1983. Even though they applied for further loan after repayment they had not received. The 6 landless beneficiaries received loans for goatery, piggery and small business Of them, 3 have either fully or partly cleared their loans and others have not repaid at all. Wherever the repayment is zero or very low, the loans are either of 1984 or the loanees are landless. Most of the loans received before 1981 have either been fully cleared or repaid to a large extent, which suggest that, though irregular, the tribal people are sincere in clearing the loans.

Income generation :

Information on income generation for the different categories of landless beneficiaries during 1979 to 1984 show that their average annual income increased by Rs 195 (17.71 percent) from Rs 1095 to Rs 1290 during the period. But the rise is not fully due to the assets. The people of this category mainly depend on firewood and podu for their livelihood. On account of increasing scarcity of fuelwood, its price rises which is reflected on the income rise. In Koilikote and Sarakat, the rise in income of the landless households is basically due to this factor. The two beneficiaries of Konkiya did receive extra income during the period, but not again due to the assets This is partly because of firewood and partly because of their part-time engagement as community Health Visitor and Panchayat Peon from which they received Rs 50/- and Rs 30 per month respectively. The landless beneficiary of Purnapatna derived some gain from the small business that was financed for him.

The percentage increase in income during the period varied between 9 56 and 6.38 in the different villages for the families who own land upto 3 acres. The people of this category depend on firewood, shifting and settled cultivation except in Konkiya where there is no prevalence of Podu. The rise in income here is due to both price change and net gain from the asset. The beneficiaries of Konkiya are better off

as they get good yield from paddy and vegetables due to the dugwell and pumpset. The loans, particularly those for land development, helped the people of this category in other villages also.

Maximum gain came to the third group of beneficiaries who own more than 3 acres of land. The farmers of Konkiya belonging to this group have an income rise to the turn of 32.9 percent A large part of income change came mainly from the three loans which they received. The beneficiary of Sarakot who has 10 acres of land did not derive much gain as he received only one loan of Rs 1000/- for land development.

Assets as indicator of development :

23 households have got their assets. In Konkiya, Koilkote and Sarakat, a large number of the assets financed are in possession of the beneficiaries. Of the 15 persons who do not have the aseets, 3 are landless. 2 landless persons of Koilkote possess goats. The increased population of goats either died or were sold. Most of the persons sold their assets this year because of the drought.

Land holding of 2 persons, only in Conkiya, has increased. 7 households are sending their sons to the M. E. School, Konkiya. 4 persons, again from Konkiya, have purchased durable goods like motor cycle, cycle and tape recorder and have brought electricity to their houses.

IV

Conclusions and Suggestions :

1—The impact of the development programmes on the Adibasis is positive, moderate and not all embracing. The 'Gram Vikas' and the Kerandimal Gana Sangathana play a decisive role as a link between the tribal people, and the Government offices and the bank.

2—The benefits came to the people of the plains, particularly to Konkiya more than to those on the hill tops. Relatively well-off Adibasis have got the maximum benefit. For the landless people, employment in the activities of NREP along with assets financed from ERRP will be more useful.

3—The entire Kerandimal area should be brought under an agency with Modified Area Development Approach (MADA). A specific agency

will yield better results than the general rural development programmes that are implemented now.

4—The Protected Forest on which the tribal people depend for firewood has become degraded. It no longer supplies good quality firewood. Even this may not be available in future. Forest areas should be rehabilitated in the village and social forestry schemes developed under NREP.

5—The rural and tribal development programmes are important at the national level. They are implemented as isolated schemes without proper perspective and context for which they lose much of their significance and effectiveness at the local level. The programmes have to be integrated with micro-level development plans, which do not exist now.

Impact of New Technology on Tribal Agriculture of Phulbani District

B. Bhuyan

The study has been conducted in Khandamal Subdivision of Phulbani District which is operating under the D.P.A.P. Besides, the area has heavy concentration of tribal population.. The farmers adopting new Technology and package of practices have been covered by the study. The demonstrations on farmers fields are the best way to verify and evaluate the proven improved agricultural practices. The results have been compared with those of equal number of farms adopting traditional method of farming. To measure the extent of acceptance of technology the advanced farmers have been listed for sample selection. The study covers a period for three years from 1977-78 to 1979-80.

Sampling Procedure :

Out of 14 subdivsions, the study is confined to the Khandamal Subdivision with the highest concentration of Tribal Population. Again purposively the Phiringia, and Phulbani Blocks identified as Tribal blocks have been pinpointed for the objectives of the study. On the basis of random sampling procedure Retang and Phiringia (Phiringa Block) and Gummagah clusters (Phulbabi block) have been selected. Each of the above clusters concides with the area of the Gram Panchayats. From the list of villages of each cluster 5 villages have been selected on the basis of random sampling. Then all the households of villages in each cluster have been listed on the basis of farm size and they have been arranged in descening order. All the farmers have been grouped into four classes, i.e. 0-1 hectare, 1-2 hects, 2-4 hects and 4 hects and above. Thus altogether 120 tribal families, at the rate of 30 households from each size group have been selected for purpose of data collection, on the basis of random sampling.

Results and Discussion :

The data have been analysed to find out the extent of increase in cost of production due to introduction of new Technology. The data are presented in the Table below :—

TABLE—1

Cost of cultivation of different crops in rupees both under new Techology and traditional method of cultivation per hect. (1977-80)

Sl. No	Crop	Traditional method	New Technology	Percent difference
1.	Paddy	1010.50	1568.32	55.28
2.	Maize	1033.25	1650.50	60.17
3.	Ragi	904.87	1361.50	49.84

The table above shows that modern technology requires greater cash investment to meet the requirments of recommended seed, fertilizers and pesticides etc. which small and marginal farmers hesitate to make. It is found that in cultivation of paddy, maize and ragi crops the percentages of additional expenditure incurred are 55.28, 60.17 and 49.84 respectively.

The analysis further shows the additional return resulted due to additional investment. It is adopted in a three tier system. The first tier involves the use of high yielding varieties of seed, adoption of all other low monetary inputs. The second tier includes the high cost inputs like the use of fertilizer and third tier includes increased efficiency in management of crops. Table No. 2 shows that the paddy yield per hectare goes up by 77.50 percent with an increase in cost of production by 55 percent. In case of maize crop the increase in yield is to the extent of 75 40 perecnt with 60 percent increase in cost of production. The ragi farmer realises an additional return of 55 percent with an increase of 50 percent increase in investment. The efficiency is also indicated by return per rupee invested. In paddy the return per rupee goes up by 14 80 percent as against of 9.40 percent in case of maize and 1.90 percent in case of Ragi.

The data have been analysed to find out how the new Technology has resulted in increase of employment and change in pattern of employment. The analysis has been done for all the three years (1977-80) and it is found that there is perceptible increase in employment for all kinds of labour, i.e. male, female and child. The analysis is shown in table No. 3.

TABLE—2

Cost of cultivation, yield rate, total return and return per rupee invested for different crops under traditional method and new technology (1977-80)

Sl. No.	Name of crop	Cost of Cultivation			Yield in Quintals per hectare			Total return per hectare in rupees			Return per rupees		
		Traditional Method	New Technology	Percent difference	Traditional Method	New Technology	Percent difference	Traditional Method	New Technology	Percent difference	Traditional method	New Technology	Percent difference
1.	Paddy	1010.50	1568.33	55	11.08	19.66	77.50	1163.33	20.65	77.50	1.15	1.32	14 80
2.	Maize	1033.25	1650.50	60	10.80	19.08	75.40	1088.33	1908.33	75.40	1.06	1.16	9.40
3.	Ragi	904.16	1361.50	50.6	9.68	14.92	54.10	968.33	1491.66	54.10	1.07	1.09	1.90

TABLE—3

Pattern of labour employmant per hectare both under new Technology and traditional method (1977-80)

Sl.	Name of	Male Labour			Female Labour			Child Labour			Total labour employment		
		Traditional Method	New Technology	Percent difference	Traditional Method	New Technology	Percent difference	Traditional Method	New Technology	Percent difference	Traditional Method	New Technology	Percent difference
1.	Paddy	38	43.66	14.90	53.66	65.33	21.80	12	15	25	103 66	124	19.60
2.	Maize	43.66	46.33	6.10	63	80	27.0	12.66	16.66	31.60	119.33	143	19.80
3.	Ragi	36.66	39	6.40	51.33	66.66	29.90	11.33	11.33	Nil	99.33	117	17.80

The effect of new technology on increase in female labour employment is also significant. In cultivation of paddy, employment of female labour has increased by 21.80 percent as against of 27 percent incase of maize and 29.90 percent in case of ragi crops. The female labourers are found working in the field specially doing operations like weeding and inter cultural operations. Employment of female labour is highly significant, under the technology. The new technology has also significant impact on increase in employment of child labour. The percent increase in employment of child labour is 25 in case of paddy cultivation as against 31.60 percent in case of maize crop. There is demand for more of child labour for weeding and planting of seeding.

The over all picture shows that the new technology has caused an appreciable increase in intensity of employment, compared to that of traditional practices. The employment has increased by 19.60 percent due to adoption of recommended practices in cultivation of paddy, 19.80 percent in cultivation of maize and 17.80 percent in cultivation of ragi.

It is further observed that there is slow acceptance of new technology in the area. The farmers have not yet been convinced of the utility of new Technology and use of it. Besides, the application of newly developed techniques generally involves some risk. So the adoption is slow. The technology is size neutral. Sets of dependable recommendations are available from University and Government research stations. But adoption by the farmers is very slow. Effective transfer of tachnology from the researcher to farmer requires a greater understanding of the farmer's obligations and constraints. In this study attempt has been made to find out the extent of adoption of the new technology by the farmers in the area. The data are presented in table No. 4.

It is observed that in the tribal area about 31.25 percent people use high yielding varieties of seeds, 25 percent people apply fertilizer, 16 percent people use plant protection measures, and 23.50 percent people adopt cultural practices in cultivation of paddy. Amongst the the maize farmers 30.50 percent people use high yielding varieties of seed, 24.75 percent people use fertilizer, 17 percent use plant protection measures, and 24.25 percent of tribal farmers adopt cultural practices. The picture is no way better.

The analysis of data shows that the reasons for slow adoption of new technology are many. Results obtained with new technology on experimental plots are often not reproducible on the farmer's fields, even

when the usual physical inputs (seed, fertilizer, pesticides etc.) and economic incentives such as credit are available. The reasons are not far to seek. Small and marginal farmers may not be taking up to new technology on the ground that apart from its high input use and the risk involved, it required use of more of family labour Most of such farmers are employed in other remunerative subsidiary occupations and for them an increase in income from the farm accruing from the adoption of new practices may not be quite attractive. The speed and degree of adoption of new technology is also governed by the tyre of relationship that exists between the farmer and the marketing channels.

The data for slow adoption are presented in TABLE No. 5.

TABLE—4

Extent of adoption of improved technology crop wise for (1977—80)

Sl.No.	Name of Crop	Percentage of the people adopting H.Y Seed	Percentage of the people applying Fertilizers	Percentage of the people adopting plant protection measures	Percentage of the people adopting cultural practices
1.	Paddy	31.25	25	18	23.50
2.	Maize	30.50	24,75	17	24.25
3.	Ragi	23.75	21	14.50	21.75

TABLE—5

Reasons for non-adoption of improved technology shown in percentages (1977—80)

Sl.No.	Reasons for non adoption	CROPS		
		Paddy	Maize	Ragi
1.	Education	43.5	55	49
2.	High cost	15	20,5	11.45
3.	Non availability	24	14.5	19
4.	Willing not to take risk	17.5	10	20.55

Among the reasons, lack of education, high cost, non-availability of inputs, and reluctance of the farmer not to take up risk are important for slow diffusion of technology in the area. It is observed that 43.5 percent of paddy farmers, 55 percent of the maize farmers and 49 percent of the ragi farmers do not adopt new technology due to lack of education. Due to high cost, 15 percent of paddy farmers, 20 percent of maize farmers, and 11 percent of ragi farmers remain away from the new technology. Non-availability of inputs serves as a cause for which 24 percent of paddy farmers, 14 5 percent of maize cultivators and 19 percent of ragi cultivators do not apply new technology. Besides the above, risk also serves as a factor as bottleneck for adoption of new technology.

Crop Substitution :

It has been observed that quite a large number of Tribal farmers have substituted the uneconomical short duration variety crop, Kuiri with early variety group having about 90 days duration i. e. DR—92. The crop has a reasonable chance of success in the area, and it yields about 12 quintals/hectare in the area and the grain is available to the farmers during the lean season i.e. in the month of September and October. The Padar Paddy, a local variety was earlier giving a yield rate of 2 quintals per acre.

Sequence Cropping :

The cropping intensity in the area has increased. During the Rabi season the second crops introduced are found to be early variety of Ragi, Mustard and Niger in upland, Paddy and Vegetables in medium land with irrigation and Late variety of paddy in low land. Due to this, the crop intensity has gone up from 95 to 115.

Inter Cropping :

Due to implementation of various programme, many farmers have taken to intercropping systems. The most popular systems are Arhar +Ragi, and Maize+Arhar. These crops are generally grown in backyards, of tribal households.

Cropping Plan :

During the period of study a few new crop plans have been developed and generally such new plans have been developed on 2 1/2

acres of upland unirrigated areas during the Kharif season. Crops to be grown are (a) Maize followed by mustard, in 0.50 acre (b) Ragi followed by mustard in 0.50 acre, (c) vegetables followed by mustard in 0 25 acre, (d) groundnut in 0.75 acre and Green Manuring followed by Mustard in 0 50 acre. These crops are found to be raised with application of compost. A comparative income analysis has shown that the total gross income due to new cropping plan has increased from Rs. 514/- to Rs. 2365/- in one hectare of land indicating 460 percent increase in income.

Use of non-monetary inputs :

The programme envisages the introduction of non-monetary inputs or inputs at low cost for the poor Tribal farmers. The study has found out that most of the farmers are doing early sowing to escape drought spells occuring in later part of the Kharif Season and also to escape from major peste and diseases. Crops like local paddy and Ragi are being sown early. Line sowing has not yet been popular in the area, advocated under the programme. The farmers are now quite convinced of benefits of proper weeding, use of organic manures and fertilizers and use of proper variety of crop for better harvest.

Shifting Cultivation :

Shifting or Podu cultivation has great attraction for the Tribal people of the area. Previous to the iutroduction of the developmental programme each year about 3000 of hilly slopes were burnt and forest growth were destroyed by podu cultivators. This had an adverse effect on climate and rainfall. The podu cultivator generally grows Biri, Kandula, Kalka and miner millets. With the introduction of the developmental programme the farmers are now opting for settled agriculture and horticultural programmes. The tendency for podu cultivation has gone down considerably. Major Podu areas have been covered with fruit bearing trees like Mango, Jack-fruit, Tamarind, and Custard apple. Many foothills, having 3 to 4 % slopes have been terraced and made suitable for dryland cultivation.

Transformation of Economic Life of Tribals—A Case Stupy in the Rourkela Region

Ajoy Kumar Mohapatra

The first Public Sector Steel Plant of the country was established at Rourkela in the mid-1950s. Before that, Rourkela was a tiny tribal village inhabited by the tribes like Munda, Oraon, Kharia and Kisan. The sudden emergence of a highly sophisticated industry has changed the place significantly in all directions. The natives who were tradition-bound, ignorant and superstitious had to confront grave challenges of an industrial society developed in their own region. Thus the impact of industrialisation had direct bearings on them and their entire mode of life had been subject to transformation at a progressive rate.

The tribes in general, are "social groups with a definite area, cultural homogeneity and unifying social organisation." Further, "ideally tribal societies are restricted in the spatial and temporal range of their social, legal and political relations and possess a morality, religion and world view of corresponding dimensions." The economic relations are also of subsistence type. The existing technological knowledge is utterly primitive belonging to a very low level.

Under such a background of the tribals in general and the tribal communities of Rourkela region in particular, the present study is an attempt to measure some of the economic changes accruing to them.

Objectives of the study :

i) To show the changes in occupation of the tribals.

ii) To show the changes in income and opinion of the tribal earners regarding the levels of income.

iii) To show the changes in their pattern of expenditure.

iv) To study the nature of indebtedness and saving position of the tribals.

v) To show the entrepreneurial ability, if any, among the tribals.

Methodology :

The study is based upon household survey method by weans of prepared questionnaires. A sample of fifty tribal households has been selected at random so as to represent the universe. For getting quick informations, the heads of the households only were interviewed at their respective houses. For a suitable comparison of economic life of the tribals between past and present, 1961 has been chosen as the "cut off year" because the steel plant at Rourkela entered into production phase in that year.

The survey work was conducted as well as completed during the first quarter of 1984.

The Study Area :

All the sample households belong to Jalda, a neighbouring colony of Rourkela city. The purpose of choosing Jalda as the centre of study is that a large number of displaced tribals have settled there and the impact of industrialization directly falls on them. The village Jalda which is situated at a distance of 12 Km from Rourkela has a total area of 1527 acres, out of which 708 acres are cultivable land. In the 1981 census, Jalda has been elevated to the status of a Census Town. It has a total population of 12,089 out of which 7,533 are tribals of different communities. In recent years, the population of the place has increased enormously. Probably the vast expanse of waste land and its convenient location have attracted people from far and near to settle down here. Jalda is divided into three colonies: A, B and C and the amenities like school, post office, bank, hospital, temples, churches and metalled roads are available here.

Findings of the study :

1. Change in the Occupation of the Tribals :

Among the sample households, 56% depended on agriculture, 36% were agricultural labourers and the rest 8% depended on services before the advent of industrialisation. A significant change in the occupation of the tribals is clearly noticeable at present when the percentage of persons depending on agriculture has been reduced to nill, 36% continue to be agricultural labourers, 16% are unskilled labourers depending on occupations other than agriculture, 64% depending on services

and the rest 8% depending on business and trade. This change in occupation is due obviously to industrialization which opened up avenues for services and labour.

2. **Change in Income :**

Before industrialisation, 28% of the house, holds had an income level upto Rs. 1,000/-, 52% within the range of Rs. 1000 to Rs 2,000, 8% between Rs 2,000 and Rs 3,000, 12% between Rs 3000 and Rs 4,000 and no household had an income level beyond Rs 4,000. But at present, the income levels of the same tribal households are higher. As such, no household has an income level below Rs 2000, 4% of them earn between Rs, 2000 and Rs 3000, 12% between Rs. 3000 and Rs 4000, 8% between Rs 4000 and Rs 5000, 4% between Rs 6000 and Rs 7000, 4% between Rs 7000 and Rs 8000, 4% between Rs 8000 and Rs 9000, 12% between Rs 9000 and Rs 10,000 and 52% have an income level exceeding Rs 10,000.

Change in the Pattern of Expenditure :

All the tribal households were spending between 60% to 90% of their total income on food and upto 20% on clothes before industrialization. Only 4% of them were spending marginally on education of children, and most of them were spending upto 10% of their income on essential items like lighting, fuel, purchase of medicine and entertainment. However, no tribal family happened to spend anything on rent of accommodation and purchase of books, magazines and papers. Only 8% of them were spending upto 10% of their income on transportation.

But at present, a significant change has taken place in their spending behaviour. The proportion of income spent on food has decreased in so far as only 4% of them spend upto 40% of their income on food and only 8% spend between 70% and 80% on food. Similarly 60% of the tribal households spend on education of children, 48% on rent of accommodation, 16% on purchase of books etc., 68 percent on transportation and all of them spend on the purchase of medicine. As the data show, the expenditure on entertainment has increased manifold as 32 percent of them are now spending upto 20 percent of their income on that head.

It is further revealed that most of the tribal households possess radio sets, bycycles, torch lights and other durable items and the ladies use cosmetics.

4. Opinion regarding Present Earning :

Out of the fifty tribal households, 24 percent of the heads answered that they were quite satisfied with the present earnings and the rest 76 percent were not satisfied. The peculiarity is that most of those who were dissatisfied had income levels exceeding Rs 10,000 per annum.

5. Indebtedness :

According to the survey, 20 percent of the households had made loans before industrialization mainly from moneylenders at not less than 20 percent rate of interest. The purpose of incurring loans of most of them was to support a large number of family members. At present the percentage of borrowers has declined to 12 percent and the loans are incurred mainly from agencies like LAMPS and Cooperative Banks. The borrowed money is utilised mainly for meeting personal expenses.

6. Saving and Insurance :

Before industrialization only 4% of the tribal households were saving and they were saving mainly for meeting the unforseen future. The rest 96% did not save at all But at present the percentage of savers has increased to 40% and they save for varied purposes like purchase of property and education of children.

As regards the insurance policy made mainly in LIC, only 4% of them had saved previously and the percentage has increesed to 8% at present.

7. Entrepreneurship :

The data regarding the occupations of the tribals reveal that no tribal household had held business and trade as their main occupation previously. But at present 8% of them hold business and trade as principal source of livelihood. The data further reveal that all such heads have opened up retail shops in the town.

Conclusion :

From the findings it is clear that there has been a significant change in occupation of the tribals from traditional agriculture and agricultural labour to services during the last two decades. As per the

data, most of them have been absorbed in the Rourkela Steel Plant itself. Obviously, the Steel Plant Authority has considered the local tribals sympathetically in the matter of services.

A comparison of the levels of income of the tribals in both the periods shows that there has been a significant increase in their income at present. Previously 80% of them were earning below Rs 2,000/- and at present 52% of them have an income level exceeding Rs. 10,000/- This is by all considerations phenomenal, even after allowing the rise in the price index. But peculiarly enough, 76% of them are not satisfied with their present earnings. This tendency of dissatisfaction is perhaps due to the fact that wants have multiplied with the rising levels of income and the former obviously outweigh the latter.

So far as the patterns of expenditure is concerned, the tribals are spending on non-traditional items like education of children, transportation, rent of accomodation, medical treatment, purchase of books and magazines etc at present. Their possession of consumer durables and cosmetics etc. speaks of a higher material culture. The expenditure on these items was almost nil beforehand. This change in the pattern of expenditure is due largely to industrialization and consequent spread of education and mobility of labour. The demonstration effect also plays an important role here. Another trend quite evident from the findings is that with the rising levels of income, the proportion of income spent on food has declined since the additional income has been diverted more than proportionately towards other items.

As to the indebtedness, the number of debtors among the tribals has decreased at present compared to the previous period. The source of borrowing has changed over from moneylenders to government agencies like Cooperative Banks. Thus the role of moneylenders in this area is gradually disappearing.

As regards savings and insurance made by the tribals the percentage of savers and policy holders has increased at present compared to the previous period. As per the data, the purpose of saving is mainly for the purchase of property and education of children today. This shows that the process of industrialization has created a sort of class consciousness and spirit of competition among the tribals.

The data also reveal that a spirit of entrepreneurship is slowly growing among the tribesmen. At present, some of them are adopting

business and trade as their main occupation, although their number is very small. It is, therefore, clear that given the opportunity, the tribals can also succeed in business and trade and their entrepreneurial abilities can be exploited.

It is found from the study that some of the economic changes brought about by the process of industrialization in the Rourkela region have gone quite in favour of the local tribals. They have also been able to adapt themselves to the new industrial environment. Therefore, in the overall scheme of tribal development, special efforts should be made by the Government and others to enlist the participation of the tribals in trade, commerce and industry.

Marketing Strategy in Tribal Development Planning in Orissa : An Appraisal

T. Satpathy

Marketing of the minor forest produce (MFP) and surplus agricultural produce (SAP) constitutes an important aspect of the economic development of the tribals. Since the income level of the tribals is dependant on the quantity of the MFP procured and SAP raised by them and the prices they receive from the sales of these commodities, consideration of tribal welfare necessitates an improvement in this price factor. If the tribals fail to receive a fair and remunerative return for these products and if the exploitive elements continue to deny them the fruits of their labour, mere increase of the financial resources in five year plans for tribal welfare and execution of tribal development programmes, may not benefit them to the extent anticipated. Therefore, the issue of the development of a marketing strategy including supporting infrastructure on an enduring basis, removal of the exploitation of middlemen or intermediary links and reasonable support price must receive top priority in the scheme of integrated planning for the tribals.

1. Tribal Marketing and Role of the Government during the plan period in Orissa

In Orissa a beginning in this regard was made as early as 1936, when the Tikabali Agency Marketing Co-operative Society was set up. In the late fifties and early sixties, a number of Forest Marketing Societies were also started in districts of Koraput and Kalahandi. Thereafter in 1967, Government promoted Orissa State Forest Produce Marketing Co-operative Society. Since many of these societies could not become viable and their performance left much to be desired, the Orissa State Tribal Development Co-operative Society was formed in 1972. This institution, after organisational changes has been rechristened as "The Tribal Development Co-operative Corporation of Orissa Limited" (TDCCOL) since 1975. This is an apex marketing organisation entrusted with the task of the procurement of the surplus agricultural produce of the tribals and the minor forest produce collected by them. The TDCCOL is supposed to protect and insulate the tribals from the vagaries of the market through guaranteeing a minimum price for their

produce. The Corporation with its head office at Bhubaneswar is functioning in 9 districts of the State having predominantly tribal population and has set up 14 branches and 3 divisional offices for carrying out its activities. The authorised share capital of this Corporation is Rs. 10 crores, out of which, paid-up share capital is Rs. 501.20 lakhs, with Government of Orissa share capital being of the order of Rs. 434.17 lakhs. The Corporation has also availed of loan assistance from the State Government, National Co-operative Development Corporation, NABARD and the Commercial Banks for financing its business. For procurement of different SAP/MFP, the TDCCOL has been taking the assistance of 222 Large sized Agricultural Multipurpose Societies(LAMPS) existing in tribal areas of the State. In fact, these LAMPS are functioning as primaries of the Corporation. Besides the LAMPS, the Corporation has 150 numbers of procurement centres at field level covering almost all hats in the tribal areas TDCCOL usually procures 23 items of MFP and 10 items of SAP, a list of which can be seen in Annexure-A. This organisation with active government participation has now stepped into 14th year of its operation. In addition to TDCCOL, Agency Marketing Co-operative Society (AMCS) is functioning in phulbani district, which has also the identical objectives of safeguarding the tribal interest in respect of the procurement price received by them. Further more, Orissa Forest Corporation (OFC) is also undertaking the purchase of sal seeds from the tribals after the nationalisation of the product. The Seventh Five Year Plan of Orissa (1985-90) has earmarked a sum of Rs. 6.05 crores for share capital of TDCCOL and enrolment of membrs in LAMPS.

This brief account reveals that during the plan period, especially after 1972, the Government of Orissa keeping in view the hardships faced by the tribals have sought to give them relief through enhancement of their return from SAP and MFP.

2. (a) **The Problem :**

Hovewer the problem is that, there has been conflicting claims regarding the performance of this strategy of State participation in tribal marketing in Orissa. The defenders of the programme emphatically submit that the Government of Orissa, being alive to the problem of tribal exploitation in respect of marketing of MFP and SAP has been continuously trying to end this spurious practice by extending the network of procurement, wherever and whenever the scope for such action exists. On the otherhand, the critics have alleged that the entire programme have proved to be costly and a miserable failure in as much as

Government's marketing institutions have been offering procurement prices, which are lower than the price offered by the private trade in the open market. In addition to these there has also been a few other important issues that have been raised in the context of the review of the policy of tribal Marketing in Orissa.

(b) **The Objective :**

In view of such controversy, it is imperative that an objective evaluation of the policy and the programme of state participation in tribal marketing, particularly in respect of the procurement of MFP and SAP and provision of minimum support price is undertaken. In fact, such a review can diagnose the success and failure of the measures adopted during the plan period.

Therefore, the precise objectives set forth in this paper have been :

(i) to examine the quantitative aspect of the procurement drive undertaken by State marketing organisations in respect of MFP and SAP in tribal areas, particularly in respect of the range and intensity of their collection, the trend of such procurement, the fluctuations therein over time. (ii) to examine the level of prices paid by the institutional marketing sector, the degree of variations in such prices from one year to another and the prices that prevail in the open market for such MFP and SAC, (iii) to examine the impact of the procurement operations undertaken by institutional agencies on the minimum support price of MFP and SAP in tribal areas.

(c) **Hypotheses :**

The three major hypotheses developed in this paper are :

(i) Quantitatively the MFP and SAP being routed through the institutional marketing network have been merely nominal in relation to the available amount and there have been wide and eratic fluctuations in the actual procurement of the same produces from the same region from year to year, which were not accounted for by changes in supply position.

(ii) Procurement Prices paid by the Government marketing agencies to the tribals for the MFP and SAP have often been less than the prices paid by the private traders, particularly when market demand for the product has been bouyant and brisk.

(iii) So far as the objective of guaranteeing a minimum support price to the tribals for their products through the procurement operations of the marketing institutions is concerned, it appears to have been partially achieved.

Methodology :

The methodology adopted for this macro level evaluation has been based on secondary data. Such data in respect of market arrivals procurements prices paid etc. have been obtained from TDCCOL, AMCS, Harijan and Tribal Welfare Department, GOO, OFC, & Tribal Research Bureau, Orissa. This perfermance study has also liberally drawn on conversations with people having access to facts on tribal marketing problems.

TABLE—1

Estimated Share of Different Agencies in Procurement of some important MFP & SAP in Orissa

(In Percentages)

Agencies	Niger seed	Tur-meric	Mustard	Maize/ Millets	Mohua Flow-ers	Tama-rind	Hill broom
1	2	3	4	5	6	7	8
Village Merchants	20	15	20	—	12	—	—
Commission Agents, Petty Brokers and Trades.	55	60	45	—	20	—	—
Wholesale Merchants.	15	15	20	—	60	—	—
Total of Private Traders. (1+2+3)	90	90	95	90	95	90	90
Institutional Agencies : LAMPS, TDCCOL, AMCS.	10	10	05	10	08	10	10
TOTAL :	100	100	100	100	100	100	100

(Source : Market Survey Reports Nos.1—7. TDCCOL 1976)

4. Procurement of MFP & SAP :

An assessment of the extent of the presence and the degree of the influence of institutional marketing agencies in the tribal market can be made in terms of the quantities of MFP and SAP procured by these organisations. The available data on the estimated share of the different agencies operating in respect of the procurement of some of the important items in Orissa have been presented in Table-I above.

The table broadly reveals that the government institutions mostly consisting of the co-operatives have been able to procure only about 10 per cent of the total market arrivals of MFP and SAP. Even though these figures are at times rough estimates, they atleast indicate that the share of the government agencies has been only marginal with private trade collecting as much as 90 to 95 per cent of the quantities available.

TABLE—II

Variations in procurement of MFP and SAP by Institutional Marketing Agencies in Orissa

(1979-80 to 1983-84)

Product/ Year	Quantity procured in tons/pieces
Tamarind (TDCCOL)	
1979-80 (Koraput)	1,033 tons
1980-81 (Koraput)	2,127 tons
1981-82	42,000 tons
1982-83	60,000 tons
1983-84	2,500 tons
Hill Brooms (AMCS)	
1981-82	49,00,000 pcs
1982-83	10,000 pcs
Sal Seeds (OFC)	
1982-83	21,000 tons
1983-84	15,000 tons

Source : Occassional working papers of TDCCOL, BBSR

Equally important is the issue of fluctuation in the volume of procurement of MFP and SAP by the State Marketing agencies. It is observed that in respect of both MFP and SAP, there has been very wide variations in their actual procurement of the same produce from the same region from one year to another, even though the supply position has not undergone corresponding change. This contentian is sought to be illustrated in Table—II above, which shows the extent and magnitude of variation in the institutional procurement of some important items

This table indicates that there has been very wide and erratic fluctuations in collection of tribal products by Government agencies. Even there are number of instances, where these agencies discontinued the procurement of a particular commodity. For example, while AMCS stopped its procurement of turmeric after 1981-82, TDCCOL virtually suspended its procurement of niger seed in 1983-84 It is worthwhile to mention here that neither any exogeneous nor any endogeneous factor has been responsible for such decisions since volume of private trade in the commodities remained unaffected during the period Enquiring about the factors at work for such a decision of Governmental organisations, it was found out that their targets of procurement were often fixed on the basis of advance order from NAFED and once the requisite quantity was collected, the operations were closed.

Further, it is quite relevant to note that not only the procurement operation of marketing institution has been nominal in quantitative terms and subjected to undue variations, their procurement per unit area has also been less intensive in comparison with the private trade. In fact, the collection of MFP by the private traders from the areas leased out to them exceeded that of these marketing institutions. For example, in 1983, such private parties in Raygada Forest Range alone procured about 20,000 quintals of tarmarind, whereas the combined collection of TDCCOL and AMCS in Koraput and Phulbani districts was less than 7,000 quintals. This fact illustrates the contention that Government agencies have not probably been able to consolidate their purchase operations even in areas and products, where they have entered into.

5. Prices of MFP and SAP

The issue of pricing of MFP and SAP may be examined from two perspectives in conformity with our hypotheses, such as, (a) the relative level of prices paid by the Government agencies and the private traders

without reference to seasonal and temporal variations and (b) the extont to which, the operations of the institutional sector have guaranteed the minimum support price to protect the tribals from exploitation on account of undue fall in prices.

Analysing the structure of the prices of MFP and SAP at the procurement stage, it is observed that by contrast, the prices paid to the tribals by the private traders often have been higher than the corresponding prices paid by the Government sponsored agencies. The relative price payments in respect of some important items of MFP and SAP are presented in Table—III below.

TABLE—III

Price paid for Important Items of MFP and SAP by Institutional Marketing Sector and Private Trade. (1982—1984)

Year/ Commodity.	Price paid by Institutional Marketing Agency. Rs. per quintal/100 pieces.	Price paid by Private Trade. Rs. per quintal/100 pcs.
1	2	3
Tamarind (Seeded)		
1982-83	83.00 per quintal	
1983-84	100.00 to 125.00 per Qntl.	150.00 per Qntl.
Niger Seed		
1982-33	420.00 per quintal	460 to 500.00 per Qntl.
Hill Brooms		
1982-83	36 00 per 100 pieces	80.00 per 100 pieces
1983-84	100 00 per 100 pieces	150.00 per 100 pieces

(Source : Occassional Working Papers of TDCCOL, BESR.)

Thus, contrary to expectations as the table above shows, the institutional agencies have not made payments to tribals in better terms than the private traders for collection of their MFP and SAP. Examining the issue as to how such price differential could prevail, it is seen that the divergence in the payments arose and got aggravated especially when the market demand became brisk and bouyant and was in a position to bear higher prices. The prices offered by the traders were generally

in tune with the variations in prices in the terminal markets resulting from the changes in volume and the intensity of demand. Again private trade often offered price incentives required for larger procurements. However, the institutional sector did not succeed to take full advantage of the upward surge in the terminal market and as such, was unable to ensure the parity in prices paid by the consumers in retail market and the price received by the tribals. Further, since the private trade often somehow evades the payment of royalty, it remains in a competitively advantageous position than the Government organisations to offer better term at the collection centre. Thus, it can be broadly concluded that institutional marketing strategy has not been able to extend higher procurement price as it has not linked this price proportionately with the consumer price.

Now the second part of the pricing issue, that is as to whether the presence of the institutional marketing agencies in the tribal market and their procurement operations did guarantee a minimum support price, especially under conditions of dull demand may be examined A review of the trends in prices of some important items of MFP and SAP in the tribal markets in Orissa shows that the purchases made by TDCCOL and AMCS resulted in partially arresting the price fall and thereby protecting the tribals from the machinations of the private traders. This occurs on account of the inherent nature of the supply of tribal products, which like the floods of the hill streams comes to the market with in a short span of time immediately after collection or the harvest.

In the absence of adequate transport link between tribal villages and rhe plains, the tribal products, prior to the procurement drive of the marketing organisations, were being collected mostly by the traders at throw-away prices. However, presently simultaneous procurement operations undertaken by Government agencies seems to have reduced this practice to some extent. Out of a number of available illustrations, one may be furnished here in support of this contention. The LAMPS, the procurement agents of TDCCOL had been purchasing maize in Umerkote Division in Koraput District at Rs. 132 to Rs. 133 per quintal, although the minimum support price was fixed at Rs.124.00 per quintal. But as soon as TDCCOL withdrew its operations in March, 1984, after it achieved its targeted quota fixed as per the contract with NAFED, the prices slumped to Rs. 106.00 per quintal. The is evident from the fact that the District Administration made repeated request to TDCCOL to re-enter the market in order to save the tribals, since the private traders turned it into a captive market to keep the price low. This inter

suggests that the entry of the marketing institutions into the tribal
e in MFP and SAP has partly succeeded in ensuring procurement
e particularly during the periods of sluggish market demand.

However, the extent of effectiveness of this policy has been
ed by certain operational constraints. For example, their procure-
t drives have been confined to only certain areas, not the entire
l market. This location specificity has prevented the extension of
benefit of higher procurement price to all tribals. Further, since
ernment agencies do not deal with all items of MFP and SAP the
efits do not reach the tribals in full measure. Finally, as it has been
vn earlier, the institutianal procurements at times cease their
ations before the entire availab e supply is exhausted and their with-
val from the scene again pushes the price down. Thus, it would not
rroneous to conclude that the success of this marketing strategy
uaranteeing minimum support price has been at best partial.

nclusion and Observations :

This review in performance of an aspect of tribal development
ning and policy affirmatively confirms all the hypotheses developed
er, such as, that the procurements by Government agencies have
n nominal and subject to wide fluctuations over time and although
r price payments to tribals have often been less than that of the
ate traders, yet their presence in the market has to some extent
ured the minimum support price for the MFP and SAP.

The relevant policy implications emerging from this analysis are
if the guiding principle of tribal marketing is to ensure fair and
unerative return to tribals and to insulate them from the vagaries of
market system, then it is imperative that business activity of
nstitutions engaged in trade of MFP and SAP be intensified in the
rior at the village level to augment the volume of their collections
ne products. It is estimated that unless the institutional sector
dles 25 to 30 per cent of MFP and SAP in the minimum, if not 50
ent as had been envisaged earlier, it would be difficult to check the
old practice of deprivation of the tribals effectively. Institutional
keting at present is mostly performing the role of secondary opera-
nly, without contact with individual tribal household—the primary
ket and the customer—the terminal market. Consideration of tribal
fare necessitates its presence in all the three markets—primary,
ondary and terminal. The institutional marketing networks that exist
resent in the State need considerable consolidation for efficient and
ctive working. As a policy variable, the institutional marketing
em in the State has shown enough potentialities and with improve-
ts at the operational level this can prove to be supplementary supply

Impact of Developmental Schemes on Tribal Economy–A Case Study

Dr. D. D. Panigrahi & Dr. S. K. Das

Problem :

Development of tribal areas has been receiving constant attention Government. Considerable emphasis has been laid for uplifting ocio-economic condition of the tribal poor. Various programmes been specifically designed and directed for the progressive reduc- n the incidence of tribal poverty through generating gainful employ- opportunities and strangthening their asset position and increas- heir level of income. Success achieved in these areas (areas of development) has been the centre of many controversies. The tion of the present paper is to participate in such a debate by taking e study of a backward tribal village in an otherwise backward ct (Dhenkanal) of Orissa.

e and Method :

The present study is based on field survey of 62 households in lahurpalli village of Dhenkanal District. The main objective of the is to asses the impact of rural development programmes on oyment, income and asset status of the tribals. The choice of Mahur- village is due to its typical feature of depressed economic condi- All the households were covered under the study. The reference was 1984-85.

Cross-section approach has been used to evaluate the impact of ural development programmes on tribal people. The existing situa- f beneficiary and non-beneficiary households from different income os has been compared. An estimation of economic benefits of such ne group in terms of increase in employment, income and asset on has been made to show the effectiveness of various programmes proving the economic condition of the tribals.

At the time of survey, it was found that I.R.D. and E.R.R.P. pro- mes were in operation in the area. Both the programmes were intro-

can be categorised into four broad groups ;—(1) Land based activities (ii) Animal husbandry (iii) Water based schemes and (iv) Non-Agricultural employment schemes. In the study area the second and the fourth categories of schemes are found to be in operation.

Analysis of the Findings :

Table 1 shows a cross sectional data of the households according to income group and beneficiaries of the Rural Development programmes. The households are divided into four income groups, such as ;—Incomes below (i) Rs. 1500 (ii) Rs 1500 to Rs 2500 (iii) Rs 2500 to Rs 4000 and (iv) above Rs 4000. The table records that 27.4 % of the total households belongs to the 1st group, 38.7 percent to the 2nd group. 20.9 percent to the 3rd group and remaining 13 percent to the 4th group. Thus there is a high concentration of households in the relatively low income groups The table, further shows that 17.64 percent of the 1st group, 25 percent of the 2nd group, 30.76 percent of the 3rd group and 37.5 percent of the 4th group are the beneficiaries of the rural development programme. Hence there is a direct relationship between the level of income and the beneficiaries of the R. D. Programme. In other words the R.D. Programme has nourished the relatively affluent households in a better way. On an average 25.8 percent of the total households have been benefited leaving a vast multitude of tribal people (75 percent) out of the rural development frame work.

Table 2 reveals the income of beneficiary and non-beneficiary househelds from live stock and the role of R. D. Programmes in increasing the income of the beneficiaries. The table indicates that the incremental income of beneficiaries over non-beneficiaries is marginal and stands at Rs 17/- for the Ist group, Rs 22/- for the 2nd group, Rs 30/- for the 3rd group and Rs 36/- for the 4th group. That the incremental income credited to the R. D Scheme is weak enough for improving the economic condition of the tribal poor is clearly evident from the data presented in the study.

The impact of Animal Husbandry scheme on employment could not be directly calculated due to incomplete information from the tribals. Indirectly it is calculated by dividing the incremental income by the current wage rate. The additional employment thus derived stands at 2.12 mandays for Ist group, 2.75 mandays for 2nd group, 3.75 mandays for 3rd group and 4.5 manday for 4th group respectively. On an average it stands at only 3.6 mandays, which is marginal and insignificant.

Table 3 indicates the amount invested under Animal Husbandry for different groups of households, the loan subsidy camponent of the institutional investment and the incremental income for every Rs 100/- of investment. Out of a total of Rs 7000/- advanced, 25 percent (Rs 1750/-) is loan and remaining 75 percent (Rs 5250/-) is subsidy. The incremental income for every Rs 100/- of investment stands at Rs 1.70 for the 1st group, Rs 2 20 for the 2nd group, Rs 3.00 for the 3rd group and Rs 3.60 for the 4th group. On an average it stands at Rs 2.30. The return on employment on land based schemes is much more encouraging than investment on animal husbandry scheme.

Under Non-Agricultural Employment Scheme two activities, such as (i) Bullock-Cart plying and (ii) Small business shop have been covered. Table 4 shows the income of beneficiary and non-beneficiary households under Bullock cart plying. The 1st group of households has not been financed under N A E. Scheme. The incremental income from Bullock cart plying stands at Rs 8.00 for the 2nd group, Rs 28.00 for the 3rd group and Rs 16 00 for the 4th group of households. On an average the incremental income stands at Rs 12.20 which is also too meagre for bringing about any change in the economic status of the tribal poor. The incremental employment, as calculated previously stands at one manday for the 2nd group, 3.5 mandays for the 3rd group and 2 mandays for the 4th group. On an average it stands at only 1.52 mandays.

Table 5 shows the loan subsidy component of the total investment made under bullock cart financing and return for every Rs 100/- investment from it. The loan-subsidy component worked out to be 25 percent, to 75 percent for all the three groups. For every Rs 100/- of investment the retrun stands at Re 0.26 for the 2nd group, Re 0.93 for the 3rd group and Re 0.53 for the 4th group. On an average it stands at Re 0.55. The return on investment on bullock cart plying is much more discouraging than return on other non-farm employment schemes.

Table 6 shows the income of beneficiary and non-beneficiary households from small business. Only one household in the 4th group has been benefited under the scheme. The incremantal income of borrowing household over the non borrowing household stands at Rs. 1350/-The incremental employment calculated as previously stands at 168.7 mandays. The loan subsidy component of the small businesss financing and the incremental income for every Rs. 100/-of investment is

given in table 7. The loan and the subsidy stand at 25 parcent to 75 percent and the incremenral income for every Rs. 100/-stands at Rs. 33.75. Thus the only success story is the small business financing scheme.

Table 8 shows the asset position of the beneficiary and non beneficiary households and the difference between them. The difference in the value of asset stands at Rs. 12/-for the 1st group, and increases to Rs. 41/ for the 2nd group, to Rs. 114/-for the 3rd group and to Rs. 450/- for the 4th group. On an average it stands at Rs. 298.63. Two things are clear from these figures. First, the Rural Development schemes have taken more care of the relatively rich households and secondly there is no significant increase in the asset position of the tribal poor, which will help their productivity to move in an upward direction. This marginal increase in asset is in the shape of live stock and the productive span of life of these animals for various reasons is too short. Thus the increase in asset position is only a temporary phenomenon.

Conclusion :

The analysis of the study reveals that large section of households (75 percent) have not been covered by the Rural Development Programme. Further, the rural development agencies have taken more care of the relatively affluent households despite so much emphasis at the policy planning level to improve the condition of the poorest among the poor. It is also discouraging to point out that these programmes have a marginal impact on increasing income, employment and asset position of the poor tribals. The failure of the Animal Husbandry scheme is due to its non-association with the landed asset. When the by-product of farm is used as food for animals, the cost of Animal Husbandry Scheme shows a substantial reduction with the rise in yield rate. Non-suitability of the scheme is another factor contributing for poor performance of the Rural Development Progammes. In case of bullock cart financing market demand has not taken into consideration The supply of bullock cart through institutional financing far exceeded the requirement of the area, as a consequent of which the bullock carts have remained idle. However there was no instance of diversion of loan for consumption purposes and no such leakage of benefit to the non target groups. In summary the study reveals that the most cherised goal of alleviation of poverty and creation of an egalitarian society has still remained a dream.

Table—1

Classification of Households according to Income and Beneficiary of Rural Development Programme.

Income Group (in Rs.)	Beneficiary	Non-beneficiary	Total
I-Below-1500	3 (17.64)	14 (82.36)	17 (100) (274)
II-1500-2500	6 (25.0)	18 (75.0)	24 (100) (38.7)
III-2500-4000	4 (30.76)	9 (69.24)	13 (100) (20.9)
IV-Above 4000	3 (37.5)	5 (62.5)	8 (100) (13)
Total	16 (25.8)	46 (74.2)	62 (100) (100)

Figures in Parentheses indicate percentage.

Source : Primary data.

Table—2

Average Income of Households from Live Stocks (in Rs.)

Income Group	Beneficiary		Non-beneficiary		Diffierence	
	No. of H.H.	A. Income	No. of h. h.	A Income	Income	Employment* (in mandays)
I	3	175	9	158	17	2.12
II	2	208	12	186	22	2.75
III	1	350	4	320	30	3.75
IV	1	356	2	320	36	4.5
Total	7	235.28	27	204.44	28.89	3.6

* 1. $\text{Employment} = \frac{\text{Income}}{\text{Wage Rate}}$

2. Wage Rule is Rs. 8/-in the area

Source : As of Table—1

Table—3

Loan Subsidy component of the Animal Husbandry scheme and Incremental Income for Rs. 100/-of investment (in Rs.)

Income Group	No.	Loan	Subsidy	Loan+ subsidy	Total Income.	Incremental Income for Rs. 100/- of Investment
I	3	750	2250	3000	51	1.7
II	2	500	1500	2000	44	2.2
III	1	250	750	1000	30	3.0
IV	1	250	750	1000	36	3.6
Total	7	1750	5250	7000	161	2.3

Source : As of Table 1.

Table—4

Average Income from Bullock Cart Plying (in Rs.)

Income Group	Beneficiary No	Beneficiary A. In	Non-beneficiary No.	Non-beneficiary A. In	Difference Income	Difference Temp (in M.days)
I	—	—	—	—	—	
II	4	480	2	472	8	1.0
III	3	540	2	512	28	3.5
IV	1	532	1	516	16	2.0
Total	8	509	5	496.80	12 20	1.52

Source : As of Table—1

Table—5

Loan Subsidy Component of Bullock Cart Playing Scheme And Incremental Income for Rs 100/- of Investment (in Rs.)

Income Group	No.	Loan	Subsidy	Loan & subsidy	Total Incre-mental income	Incremental Income for Rs 100/- of investment
I	—	—	—	—	—	—
II	4	3000	9000	12000	32	0.26
III	3	2250	6750	9000	84	0.93
IV	2	750	2250	3000	16	0 53
Total	9	7000	21000	28000	132	0.55

Source : As of Table—1

Table—6

Average Income from Small Business (in Rs.)

Income Group	Beneficiary No of hh	A.In	Non-Beneficiary No of hh	A.In	Difference Income	Empl. (in M day)
I	—	—	—	—	—	—
II	—	—	—	—	—	—
III	—	—	—	—	—	—
IV	1	4400	2	3050	1350	168.75
Total	1	4400	2	3050	1350	168.75

Source : As of Table 1

Table—7 : Loan subsidy component of small business financing and Incremental Income for Rs. 100/- of investment (in Rs.)

Income Group	Loan	Subsidy	Loan+ subsidy	Total In. Income	Incremental Income for Rs. 100/- of investment
I	—	—	—	—	—
II	—	—	—	—	—
III	—	—	—	—	—
IV	1000	3000	4000	1350	33.75
Total	1000	3000	4000	1350	33 75

Source : As of Table 1

Table—8 : Average value of Assets for household (in Rs.)

Income Group	Beneficiary No. of hh.	A Value	Non-beneficiary No. of hh.	A. Value	Difference
I	3	205	19	193	12
II	6	348	18	307	41
III	4	690	9	570	114
IV	3	1280	5	830	450
Total	16	664.50	48	365.87	298 63

Source : As of Table—1.

Problems of Tribal Agriculture —A Case Study of Koraput District

Dr. P. C. Mohapatro

Agriculture constitutes an important source of livelihood for the bulk of the tribal population in Koraput district. According to 1981 census as many as 94 per cent of the S. T. workers are enumerated as cultivaters and agriculrural labourers in the district compared to 88.36 percent for the State as a whole. As a large percentage of tribals are dependent on agriculture and there is little possibility of reducing their pressure on land in the immediate future, it is necessary to understand the problems connected with the development of tribal agriculture in the district.

The analysis made in this paper is mainly based up on the sample survey conducted by the author in 373 households of seventeen villages in the district during the year 1977-78. In order to assess the impact of development plans on tribal agriculture of the district after the year 1977-78, secondary data collected from the district head quarters and other published sources have been taken into consideration.

Pattern of Tribal Agriculture :

In contrast to other areas in the State, Agriculture has certain peculiar features in the district. The presence of hills, undulating terrains and forests in large part of the district does not offer an environment for adopting better farming practices. Cultivation is carried on at various altitudes varying from 200 to 400 feet above the sea level and therefore the methods of cultivation differ greatly from place to place deped-ing on the height of the land cultivated. Shifting cultivation and settled cultivation are the two major agricultural patterns found in the district.

Shifting Cultivation :

Shifting cultivation, locally known as Podu cultivation is a "form of agriculture under which the cultivator cleans a part of the forest, sets fire to the fallen trees and branches and sows seeds in the ashes." As per the finding of a sample survey, 17.26 percent of the tribal households of the district still depend upon this primitive method of agriculture.

This method of cultivation leads to heavy soil erosion and loss of fertility of the soil and hence is called a wasteful method. It is widely practiced by the hill tribes i.e. Dangaria Kondh, Kutia Kondh, Gadba Paraja, Bonda and Didayi inhabited in different parts of the district. The practice is generally attributed to the ignorance of the tribals. However, an indepth study of the problems has revealed that the practice is rooted in the objective conditions in which the tribals are placed to operate their economy. The institutional and production relationship operating in tribal areas often is so hostile to the tribals that it tends to perpetuate this system inspite of different welfare measures undertaken by the Government. An analysis of the measures undertaken by the Government so far has (like colonisation and settlement programme, soil conservation schemes, introduction and spread of horticulture, introduction of cash crops etc.) only tended to snatch the surface of the tribal problem. The basic pre-requisite is to change the objective situation of the tribal people by ensuring their access to better land in the plains, providing input services and improving their skill and organisation. Keeping in view the absence of alternative means of livelihood and low level of agricultural development at present any exhortation to discontinue shifting cultivation is likely to be reduced to a cry in wilderness. Shifting cultivation needs to be adopted to new requirements with the twin objectives of mitigrating the socio-economic evils and raising productivity. However, the long run objective should be to wear away the tribals increasingly from the ruinous practice of shifting cultivation.

Settled Cultivation :

Settled Cultivation is practised by the hill tribes in the terraced land down the hill streams and in the high lands only to a limited extent, as the land on 3000 plateau in undulating and not fit for wet cultivation This system is practised mostly by the tribes inhabited in plains, in wet and dry lands according to the environment, topography and location of the tribal communities. The best cultivated lands in the district are found only in limited pockets of the district, i. e. in Vansadhara Valley near Gunpur, in Nagavali Valley near Kalyan Singhpur in Rayagada and the Valley of Indravati in Jeypore and Nowrangpur sub-divisions.

PROBLEMS

Data on pattern of land ownership, cropping pattern, yield per acre irrigated area, consumption of fertiliser and use of agricultural implements for the tribals of the district indicate that the agricultural practices

adopted by the tribals are more crude and primitive than that of other inhabitants of the district. According to 1961 census, 60.14 per cent of the cultivating Scheduled Tribe households in the district owned less than 5 acres as against 58.86 per cent in case of general rural cultivating households and 46.12 per cent in case of urban cultivating households. The corresponding figures for S.T. cultivators in the district for 1971 are not available from the census as yet. However, the survey of 1978 made by the author in the district indicates that 80.38 per cent of the tribals of the district own less than five acres each. The average per-capita land holding in the district has decreased from 1.41 acres in 1961 to 1.11 acres in 1971.

In the cropping pattern of Koraput district, for the year 1980-81, paddy accounted for 33 55 per cent of the total gross cropped area, ragi 11.28 per cent, pulses 12.23 per cent and oil seeds 12.21 per cent. In contrast the sample survey of 1978 indicated that among tribals of the district paddy covered 50.15 per cent, ragi 19.75 per cent, pulses 6.39 per cent and oil seeds 3.41 per cent This indicates that the cropping pattern is highly traditional and has not shown any improvement in the district. Any damage done to rice crop on account of uncertainty of rainfall brings disaster to cultivators particularly the marginal and small ones, largely dependent on it.

The sample survey of 1978, further revealed that lack of irrigation facilities, inferior soils and above all the ignorance of the tribals and their inaccessasibility to modern agricultural practices tend to keep them out of the reach of the HYV Programme.

Artificial methods of irrigation are almopt non-existent and almost 92.6 per cent of the cropped area depend exclusively on rainfall. The annual average rainfall of the district is 1521.8 M M. but the seasonal distribution of rainfall does not tend to support multiple cropping. During the mansoon season about 79 per cent of the rainfall is received. The spatial distribution of rainfall is also inequitable. Hardly 7.4 per cent of the cultivated area in the district was under irrigation during 1983-84 as against 19 per cent in the state during 1979-80. The position is still worse in the tribal dominated areas of the district. The sample survey, 1978 reveals that irrigation hardly accounts for 2 per cent of the tribal cultivable areas of the district.

The agricultural implements commonly used for cultivation in the district are largely primitive. The moderate agricultural implements like

improved plough, cultivator with seedling attachment, seed cum fertiliser drill, pedal operated thresher, hand sprayer etc. are found only in limited numbers mostly among the non-tribal rich cultivators.

Thus, unfavourable circumstances i. e. the inequitable land tenure system, low per capita cultivable land, poor cropping pattern, inadequate irrigation facilities, infertile soils and primitive agricultural practices combine to make the agriculture poor primitive and uneconomic.

Land alienation :

Land alienation over the years has been the single biggest cause of the acute backwardness of tribal economy. A sizable portion of the tribal population of the district is economically indignent and has been reduced to the status of landless agricultural labourers as a result of gradual alienation of lands from tribals to non-tribals and even to a few rich tribals. With the loss of fertile lands, the holdings of the tribals generally become uneconomic and could not provide for their minimum requirement. This compelled them to take resort to the evil practice of shifting cultivation, which over the years has resulted in the large scale devastation of valuable forests.

The surveys conducted by the Tribal and Harijan Research Cum-Training Institute (T.H.R.T.I.) Orissa at different periods of time indicate that tribal lands have often passed to the hands of non-tribals both in the interior blocks as well as near the roadside blocks by the side of Sadar Sub-Division.

Displacemet by Public Projects :

A large number of tribals have been displaced from their lands on account of construction of public projects such as irrigation and power, mining and industry both in public and private sectors. Although the displacement of inhabitants is of general nature and the projects are of great importance for the economic development of the state, the immediate effect has been the disruption of the economy of the tribal communities. In a majority of cases, good agricultural lands belonging to Scheduled Tribes were acquired without sufficient attention for their rehabilitation on alternative lands or providing them with other suitable means of livelihood.

For instance, for construction of Machhkund and Balimela Hydro Electric Project and H. A. Project 2816 tribal families were displaced

out of which 792 families have been rehabilitated. This has also proved a serious problem for the development of tribal agriculture.

Land Records :

One of the major difficulties in the implementation of the development programmes in the tribal areas is the absence of recognised title of land. As the availability of credit facilities by banks and co-operative societies is linked to the title of land with security, this bottleneck poses a serious problem. In the sample survey, 1978 it was noticed that in most of the villages the tribals lack title to land.

Remedial Measures taken :

The Union and the State Governments have been taking measures from time to time to protect the right of tribals on their lands and to improve their socio-economic conditions. The most important measures are the enactment of a series of legislations to prevent land alienation from tribals to non-tribals.

The Agency Tracts interests and Land Transfer Act passed by the British Government in 1917 was replaced by the Orissa Scheduled Areas Transfer of Immovable property (Scheduled Tribes Regulation II of 1956). Under the provision of this law greater emphasis was placed on detection of alienation, legal disposal of cases of illegal transfers for providing reliefs to tribals by restorating land to them.

Despite legal provisions alienation of Land continued because of (1) lacuna in the laws (2) ignorance of the tribal people (3) complicated legal provisions and (4) temptation of immediate gains. Hence, Regulation II was amended with several important provisions in favour of the tribals in 1975, till the end of March 1978, 6568 cases were filed in the district out of which 4583 tribals have got back their land measuring about 10,600 acres.

Land Reforms :

Land reforms have always assumed special significance in the strategy of development both at the national and state level both for raising agriculrural production as well as for meeting the ends of social justice. In Koraput district lands have been distributed to landless tribals from four sources :

1. Cultivable wastes and other lands with the State Government.
2. Surplus lands obtained by imposition of ceiling.
3. Land received through Bhoodan and Gramdan movements (Land Gift Movement).
4. Land received through Dandakaranya Development Authorities.

During the plan period both the Union and the State Governments have launched a series of programmes to bring about a change in the socio-economic structure of the tribal economy in the district. Two special Multi-purpose Tribal Development Blocks were established in the district during the 2nd Plan. The main objectives of these blocks were improvement of agriculture including encouragement of settled cultivation, organisation of cooperatives, provision of communication and marketing facilities etc. These blocks were renamed as Tribal Development Blocks in the 3rd plan and there were 31 such blocks in the district by the end of the year 1966-67.

During the 4th plan period, Tribal Development Agency projects were established on experimental basis in the country on the pattern of SFDP/MFAL projects in rural areas. Out of six pilot projects in the country one was organised in Gunpur/Rayagada area of the district covering ten blocks. The core economic programme pursued by these projects comprised all aspects of agricultural development which include horticulture, land reclamation, land development, soil conservation, minor irrigation, control of shifting cultivation, settlement of landless tribals, animal husbandry activities and the like.

The Fifth plan introduced the concept of sub-plan approach to tribal development. This new approach laid emphasis on Integrated Development of Agriculture by providing for (1) Soil Conditioning (2) Soil improvement and green manuring (3) Input assistance in the shape of supply of farm implements (4) Crop demonstration (5) Farmer's training and publicity and extension support. Adequate provisions were also made for development of hotriculture, live stock and irrigation facilities. An evaluation study made on the working of the Malkangiri ITDP in 1978 indicated that programme like soil conditioning, soil improvement and green manuring, farmer's training publicity were not taken up. Haphazard implementation of other programmes could not benefit the tribals in raising their levels of living.

The sixth Five Year Plan continued the Sub-Plan Stragtegy, with suitable modifications to remove the inadequacies in programme implementation. The broad strategy to be adopted in the plan is the rapid development of irrigation, optimum use of land, water as well as local resources including human resources in a coordinated manner. The main limitation of the Sub-Plan Strategy are absence of proper organisation, faculty process of identification of target groups and above all lack of proper coordination between different departments. In addition, for want of a spatial frame work these programmes were unsuitable for environmental realities. All these led to haphazard implementation of majority of programmes and often failure of some of the core programmes.

mpact of Development Schemes on Economic Life of Tribes

A Case Study in 2 Villag s of Mayurbhanj District

Manmohan Das
Mohit Kumar Sarangi

luction :

Mayurbhanj, a district of Orissa is almost a tribal district as it is tated mostly by the tribal people, (i e. more than 50 percent). From t two census reports of 1971 and 1981, it is found that tribal consists of 58.6 and 57.4 percent respectively against the State ge of 23.1 and 22.4 percent. Mayurbhanj had the highest tribal ition in Orissa according to 1971 census. The district has got a number of types of S T. people (i.e. 45 out of 62 types of tribes in Orissa) The above informations confirm that there is a heavy ntration of tribal people in this district and it is one of the five cts of the State predominantly inhabitated by the tribals and thus kept under the sub-plan Scheme.

rbhanj and Tribes:

Even though very little effort was made by the British regime to the development work in the country it is gratifying to note that ngs of Mayurbhanj made some attempts for economic and social ment of the people of this district specially with regard to com- cation, irrigation and education. Inspite of these attempts, much vay could not be achieved as regards the development of tribal e. After the merger of Mayurbhanj State with Orissa, steps were to lift the tribes from prolonged neglect for which C. D. Blocks concentration of tribes were converted into T.D. Blocks and accor- y all the 26 Blocks in the district were converted But this forma- lid not make any significant improvement in the life of the Tribals ey were not viable Units of planning for integrated economic opment. This resulted in the formation of Sub-plan approach and

Integrated Approach :

The Sub-Plan has been conceived as the miniature plan for the areas of tribal population with the framework of State Plan from the fifth plan period. Its objective was to develop the areas constituted as ITDPs with focus on tribals. Consequently Orissa had 19 ITDPs and Mayurbhanj had 4 ITDPs. These ITDPs were subsequently converted into ITDA. Out of 4 ITDAs, Baripada ITDA is one. Baripada ITDP was grounded on 1. 4. 1976 and subsequently converted into Agency with effect from 9.3.1979. The project constituted on 1976 with geographical area of 4192 Sq. Kms. There are in all 102 G.Ps with 1940 Villages, out of which 164 are uninhabited and 240 Villages are purely tribals. The total population of the Project is 706275 according to 1981 census, out of which ST Population is 353715 i.e. 51 percent.

Selection of Villages and Profile of the Villages :

Bansabilla and Kundalbani under Shamakhunta Block covered by Baripada ITDA were selected for study. Bansabilla and Kundalbani are at a distance of 2 and 7 Kms. from Baripada respectively and of 3 and 4 Kms. distance from Block Hqs. respectively. Bansabilla is the Hq. of Bansabilla G P. The total population of Bansabilla in 1981 census is 4311 out of which S. Ts are 2443 i.e. 56.5 percent. The total population in Kundalbani is 709, out of which the S. T. Population is 610 i e. 85 percent. The percentage of ST of these two villages is more than the percentage of S. Ts. populatien of Baripada ITDA which is 51 percent according to 1981 census.

Objetive of Study :

The objective of the study is to find out the impact of the development schemes on the economic life of the tribals. In order to ascertain the impact on the tribals the study aims to know the effect on agricultural productivity, change of occupational pattern, employment opportunities and standard of living.

Methodology :

Census Method was followed to conduct the survey. Data was collected by personal interview on the basis of questionnaire. 10 percent of the ST families i. e. 30 households were coverd by the study under different economic groups, such as MF 24, BF 2 and landless laboures 4.

Analysis of Result (a) Agricultural productivity :

Table—I

		Before 1976	Position on Dec. '84	Percentage change
a)	Size of Agrl. holding per family	.34 Hect.	.56 Hect.	(+) 31
b)	Area under irrigation	5.92 Hect	6.2 ,,	(+) 0.45
c)	Area under double cropping	Nil	1.01 ,,	6.2
d)	No. of persons adopting improved practices	2	8	(+) 200
e)	Per hect. productivity	13.75 Qtls.	18.75 Qtls	(+) 36
f)	Per Capita Income	Rs. 960.00	Rs. 1135 00	(+) 18

The percentage in case of (c) refers to percentage to total agril. holding but not the change in percentage.

The Table makes it clear that there has been no significant improvement in the productivity of agriculture.

(b) **Employment : —**

Table—2

		Before 1976	The date of Study (Dec. '84)	Percentage change
a)	Agriculture labour (No. of man days per household)	126	148	(+) 17
b)	Non-agriculture Labour (No. of mandays per household)	190	229	(+) 20

Opportunities per household before 1976 and in 1984.

Table—2 gives the position of employment

The table also shows that practically there has been no change in the occupational structure of the respondents even after the implementation of Develpment Schemes.

(c) Standard of Living :

TABLE—3

	Prior to 1976	Position on the date of study (Dec. '84)	Percentage
(i) No. having improved food practices	Nil	2	(+)7
(ii) No. having residential sites owned	30	30	0(Zero)
(iii) No. having permanent roofing	Nil	Nil	0(Zero)
(iv) No. of households having electricity	Nil	Nil	0(Zero)
(v) No. of persons having cycle	12	28	(+)134
(vi) No. of persons having Watch/Radio etc.	4	4	0(Zero)

The effect of the development schemes on the economic life of tribals can be very well judged from their standard of living. Table—3 reveals that except for some change in member of cycles, there has been practically no other change in standard of living due to implementation of development programmes.

(d) Health & Education :

With respect te medical facilities availed by the villagers they were helped more by the mobile malaria units and nearest dispensary and mostly by the Anganwadi established in their villages. But all were of unanimous view that visit of mobile Medical Unit monthly once can be of much help to them The study reveals that the educational facilities have increased during the period of developmental programmes with the establishment of 2 Primary Schools in these villages and a High Schools at a distance of 3 K Ms. from the villages. The villagers are very much interested in educating their children. Their interest in educating their children is revealed from the fact that 21 out of 28 i. e. 75 percent of children of school going age were availing the schooling facilities.

Findings & Conclusion :

(1) Agricultural productivity has not increased up to the mark due to (a) lack of adequate irrigation facilities (b) insignificant increase in double cropping area (c) lack of adoption of improved seeds, methods of production and inadequate doses of chemical fertilizers. (2) Increase in employment is marginal and there is no substantial change in occupational pattern. (3) The standard of living has not increased. (4) There is marked progress in the field of public health and education.

Planning is emphasising the development of weaker sections specially of the tribals. The study reveals that inspite of the several development schemes undertaken in these villages there has been no landmark in the economic progress of these people. They are still exploited by the village mahajans particularly from outside the state inspite of the increase in the number of institutional financing agencies in receut years. The tribals have no clear understanding about the different development schemes meant for them.

In order to have real impact of the Development Scheme on the economic life of tribals, it is suggested that—

(a) Existing but defunct Baldiha Canal system should be rejuvenated.

(b) The consumption loan is to be provided by the institutional financing agencies in order to free them from the yokes of Mahajans.

(c) The officials linked with them should work with missionary zeal.

(d) Extension work in regard to adoption of improved agricultural practices should be carried out with more keenness.

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Impact of Goatery Scheme on Income and Indebtedness of Scheduled Tribes—a Case Study

Dr. R. K. Panda

Next to Madhya Pradesh, Orissa has the largest concentration of tribal population in India. According to 1981 census 22.43 percent of the total population of the State come under the category of Scheduled Tribes. So any effort undertaken for the development of the State in general must take into account the development of this section of population. Keeping this in view, since the emergence of India as a free country, various development programmes have been worked out for the upliftment of tribal population in our State. it is often argued by the experts in this field that the various development measures undertaken so far have not benefited the tribals to the extent they were thought of at their initiation. As a result, they (the tribals) continue to remain in ignorance and poverty, isolated from the general stream of developmental process. In this context, the present study is undertaken to examine the impact of a developmental scheme on the income and indebtdness of a Scheduled Tribe community in Orissa.

Methodology :

Chandrasekharpur village in Bhubaneswar Block of Puri district, Orissa is taken as the area of the present study. A goat-rearing scheme has been adopted in this village through the Indian Overseas Bank, Mancheswar Branch Out of the fifty households residing in the village, twenty households have been covered under the scheme All these twenty households are taken into account for the purpose of present study. On the basis of a questionnaire, informations have been elicited from these households regarding their structure, income and indebtedness prior to the adoption of the scheme and after their being covered by it. Besides the officials of the Indian Overseas Bank. Mancheswar Branch have been contacted to elicit various information on the working of the scheme.

Profile of the Area :

Chandrasekharpur village is situated in the outskirts of the Capital city, Bhubaneswar. Nearly 50 households of Scheduled Tribes belonging to 'Sawar' sub-tribe are living in this village for the last 100 years or

more. As they do not possess land for cultivation purpose, they mostly earn their livelihood through working as agricultural labour in neighbouring villages and collecting fire-wood from nearby jungles.

Profile of the Households :

The total number ef persons in the sample households works out to 127 giving an average family size of 6.35 persons per household. The age structure of the sample households reveals that 50 percent of the total population are less than 20 years of age. 28.12 percent are between the age of 21-40, 16.39 percent between the age of 41-60 and 5.49 percent above the age of 61. Thus, in the age profile, a mojority is found to be in the teenagers group. The potential labour force identified in the age-group of 15-55 constituted 64.28 per cent of the total population. However the participation of the working force comes to around 38 percent of the total population Further it is also revealed that the work force participation of males is much higher than that of females. The low participation rate among females in the work force is mainly due to their engagements in looking after their children at home. With regard to their level of education it is found out that the percentage of literacy among the sample households is very negligible. More so, not a single member among the sample households is found to have passed Matriculation Examination and the reason for such low level of education is their poor economic cosdition. During the course of investigation it is learnt that the sample households possess tiny pieces of land leased-out to them by the Government. But these lands are quite unsuitable for purpose of cultivation.

Before the adoption of the scheme the sample households on an average were getting Rs 1765.35 from all the sources (Rs. 1210.56 from agricultural wage, Rs. 481.12 from fire-wood collection and Rs. 273.67 from others). This implies that agricultural wage forms most important source of their income as it provides for them nearly 69 percent of their total income.

Nature of Assistance Provided :

The Scheme extends financial assistance in the form of loan and subsidy to the sample households. Each household is provided with goats worth of Rs 900.00 out of which 50 percent is subsidy and 50 per cent is loan. Each household, on an average was provided with 5 goats. While interviewing, the respondents revealed that the type of goats

provided to them was not suitable to the local climatic condition. This resulted in mortality of a number of goats life in majority of the households. The beneficiary households also complained about the non-availability of medical assistance for the treatment of the diseased goats.

Economic Benefits :

The field survey about the economic benefits accruing to the sample households from the scheme gives a dismal picture. Out of the twenty households who received goats through the scheme only in case of three the scheme has proved to be successful and profitable in these three households. The number of goats that were originally given have multiplied and they (these households) have been able to get on an average Rs. 100/- from the sale of kids within this time period. These three households pointed out that because of their acute poverty condition and in order to meet their consumption needs, they were forced to sell the kids at a much younger age than the age at which they are normally sold. Out of the remaining 17 households, five households confessed that they have sold away the goats within two monrhs after receiving them through the scheme in order to meet their past loan obligations In other twelve households, the goats became prey to certain diseases and thus died.

To conclude, it can be pointed out that the scheme, on the whole has not been able to raise the economic standard of the beneficiary households.

Repayment :

In the matter of recycling of funds the actual repayment is as much important as the generation of additional income. The basic postulate of any scheme of assistance is to improve the viability of the beneficiaries and thereby make the loan self-repayment. In this context, the story of repayment is still worse. As the scheme has failed in majority cases of households, it (the scheme) has become an additional dead weight burden on the sample households. Before the adoption of the scheme, the average burden of debt of the sample households was Rs. 152. 18. But after the implementation of the scheme, the burden of debt of the sample households has increased. The per household debt after the implementation of the scheme has been Rs 309. 38. This increase in debt of the beneficiary households after being included under the scheme is attributed to the cost of maintenance of goats which

e an additional expenses on the purse of the family. More particu-
n this context, some households pointed out the expenses incurred
treatment of the diseased goats. Twelve out of the twenty
e households pointed that each one of them has spent about fifty
y rupees in the treatment of the goats. They were also of the
n that for the treatment of the goats they borrowed money from the
ioney lenders at an interest rate of 6 percent per month.

lt is startling to note that in spite of the increase in debt, ten out
nty households have paid off their entire loan amount to the
ned bank. One interesting feature in this context is that all
en households who have paid off their loan have been able to do
r selling their tiny pieces of land to the local money-lenbers. Only
ouseholds where the goats have multiplied have been able to pay
ent of their loan out of the sale of kids For the rest seven
olds, the entire loan component of the assistance has remained

n of the Sample Household about the Scheme :

While asking for their opinion regarding the scheme, all the sample
olds unanimously pointed out that the scheme is totally unsuitable
n. They also complained that because of lack of coordination
en the government staff in charge of the scheme and the bank,
ere to run to different offices several times to get the scheme
ned. Further all the households complained about the apathy
olock officials in the implement ation of the programme. In the
of investigation, all the beneficiary households disclosed their
sness and wretched conditions within which they are living.
ointed out that they have settled here for the last hundred years
e. Now they are called as 'Kabaris' in the locality and are mis-
ood as Scheduled Caste people. Though in electoral rolls and
fficial records they are treated as Scheduled Tribe people, yet no
c plan by the government has so far been implemented for their
nic development. While they were asked to give their preference
other scheme that would be suitable for them, they suggested
opening of an industry by the government in a nearby area so
y would be able to get work round the year.

sion and Policy Implications :

the other hand it has made them still poorer and debt-striken. On the basis of this study, it may be suggested that any programme of tribal development should not be considered in isolation. Before adopting any scheme, a comprehensive survey of the particular tribal region must be conducted and attitudes of people studied on the basis of which developmental schemes have to be formulated. Moreover, special functionaries should be posted for close and effective supervision of various developmental schemes pertaining to the tribal people.

Planning and Development for the Tribes of District Ganjam, Orissa

Maj. A. K. Roy
Dr. K. Nana Buchi

The State of Orissa has the second largest tribal population in the country. There are 62 tribes in Orissa, and the most primitive tribal groups of the country are also found in it. The total tribal population as per Census 1981 is 59.2 lakhs. This comes to 22.43% of the total population of the State. The tribes of the State are concentrated in certain areas of the State. These areas have been declared as Scheduled Areas of the State.

Basing on the guidelines of the Planning Commission, the sub-plan document was prepared during the Fifth Plan period. The sub-plan area of Orissa was composed of 19 Integrated Tribal Development Projects and 4 Tribal Development Agencies. Of the 4 Tribal Development Agencies, the Tribal Development Agency, Parlakhemundi, district Ganjam was one of them It was formed and registered on March 13, 1972 under the societies Registration Act of 1860. The project area of the agency comprised of seven blocks of the Ganjam district viz., Mohana, R. Udayagiri, Nuagada, Rayagada, Gumma, Kasinagar and Gosani of Parlakhemundi sub-division and Thumba Agency of Patrapur Block of Berhampur sub-division The T.D.A., Parlakhemundi was continued till the end of June, 1979 and from 1st July, 1979 it was converted to sub-plan area.

Since the inception of the T.D.A., Parlakhemundi till June, 1979 various development programmes have been implemented with an expenditure of Rs. 151.7 lakhs The schemes/programmes implemented refer to Land development, Improvement of irrigation, Afforestation, Animal Husbandary, Communication etc. Details are given in Table I

The following are the achievements made by the T. D. A. Parlakhemundi since its inception till the end of June, 1979.

Table—1

Programmes implemented and the amount spent by T. D. A., Parlakhemundi, Dist. Ganjam from March 1972 to June 1979.

Sl No.	Name of the Scheme	Amount spent (Rs. in lakhs)
1	2	3
1.	Communication	64.9
2.	Land reclamation	1.8
3.	Improvement to tribal lands	0.5
4.	Animal Husbandry	7.8
5.	Irrigation	45.2
6.	Agriculture	10.7
7.	Afforestation	1.3
8.	Drinking Waterr	5.8

Source :—Sixth Plan Report, 1980-1981 to 1984-85, I. T. D. A., Parlakhemundi, P. 21.

(1) **Land Shaping and Development :**

(a)	Total area reclaimed	3959 acs.
(b)	Area allotted to tribes	3396.65 acs.
(c)	No. of tribal beneficiaries	1919
(d)	Improvement to private land of tribes both from T. D. A. fund and State Government funds	330.87 acs.

(2) **Irrigation :**

(i)	a. Minor Irrigation Projects completed	8 nos
	b. Area brought under irrigation	2514.55 acs.
(ii)	a. Dug wells completed	4044 nos.
	b. Area brought under irrigation	2270.12 acs.
(iii)	Area brought under irrigation through lift irrigation	152 acs.

(3) **Supply of Diesel Pumps :**

(a)	On community basis	13 nos.
(b)	On individual basis	6 nos.

(4) Agriculture :

(a) Demonstration :	(i) Kharif	3337 nos.
	(ii) Rabi	1982 nos.
(b) Propagation of high yielding and improved varieties		1.26 lakh acs
(c) Input assistance to tribal allottees of reclaimed lands :	(i) Kharif	4198.18 acs.
	(ii) Rabi	2729.63 acs.
Beneficiaries	(i) Kharif	3214 nos.
	(ii) Rabi	2190 nos.
(d) No. of Grafts supplied		301.3 thousand nos.
(e) Plantation of fruit trees taken up		36.25 Acs
(f) Agricultural implements supplied		1688 nos.
(g) Supply of plough bullocks		1688 nos.
(h) Input assistance to tribals other than allottees of reclaimed land :	(i) Kharif	5496.36 Acs.
	(ii) Rabi	3907.58 Acs.

(5) Communication :

(i) (a) No. of feeder roads completed	5 nos.
(b) Distance completed	67.27 kms.
(ii) (a) No. of arterial roads completed	3 nos.
(b) Distance completed	41 kms.

(6) Animal Husbandry :

a) Goat Units started	2044 units
b) Improved cocks supplied	2000 nos.
c) Bucks supplied	300 nos.

(7) Afforestation 2165 Acs.

(8) Coffee plantation 30 Acs.

(9) Assistance to traditional artisans :

a) Palm-gur boiling sets supplied	310 sets.
b) Improved Ghanis supplied	10 nos.
c) Bee-keeping implements supplied	47 sets.

(10) Tribals trained in different trades	2211
(11) Tribal families benefited	66,444

From 1st July, 1979 the integrated approach as is envisaged in the sub-plan concept has emerged in the district of Ganjam with a view to narrowing the gap between the level of development of the tribals and other areas and also to improve the quality of individual tribal life to enable 50 percent of them to cross poverty line by the end of the sixth plan. So, out of the seven blocks of Parlakhemundi Sub-Division covered under T.D.A. programme, five blocks viz , Gumma, Mohana, R. Udayagiri, Nuagada and Rayagada were formed as the sub-plan area. It covers a geographical area of 2980.11 sq. kms The total population covered by the Sub plan of the district is 208.9 thousand as per Census 1981, of which 144.2 thousand are tribals It comes to 69.2 percent of the total population of the sub-plan area.

The ITDA of the district has implemented infrastructural development schemes, poverty amelioration programmes and anti-exploitation measures for the upliftment of the tribals in the sub-plan area. The following development schemes/programmes have been implemented during 1980-83.

(I) **Infrastructural Development Schemes :**

Under this scheme an amount of Rs. 316.1 lakhs has been utilised from 1980-81 to 1982-83. The ITDA has pooled the resources from different sources (Table—II) The share of the State Plan was little more than 35%

As many as 17 schemes have been implemented under this head. The achievement of some of the schemes are briefly sketched below :

(i) **Agriculture :**

Between 1980 and 1983, the ITDA has conducted 1549 agriculture demonstrations under HYVP, cotton, maize, jute, pulses and supplied 200 mini-kits It had also supplied seeds to tribals on the basis of 50% subsidy. Under this scheme 336 tribal families have been benefited.

(ii) **Soil Conservation :**

Under this programme Cashew plantation was done over an area of 550 Acs , and coffee plantation on an area of 50 Acs. The Agency has also constructed 3 units of gully control structures.

Table—II

Sources of Finance utilised under Infrastructural Development Schemes. (Rs in lakhs)

Year	State Plan	Central/ Centrally Sponso-red pro-grammes	Special Central Assist-ance received direct from concerned Depart-ment.	Special Central assist-ance utilised out of ITDA funds.	Insti-tutio-nal finance	Total
1	2	3	4	5	6	7
1980-81	39.7	35 6	1.9	10.3	—	87.5
1981-82	64.8	40.9	5.1	17.1	—	127.9
1982-83	46 6	33.0	10.9	8.5	1.7	100.7
Total :	151 1	109.5	17.9	95.9	1.7	316.1

Source : Sixth Plan Project Report, 1980-81 to 1984-85, ITDA Parlakhemundi, pp. 119-124 (Figures compiled).

(iii) **Horticulture :**

The Agency had planted 0.9 lakhs of citrus seedlings and raised 8.20 lakhs of citrus seedlings in new nurseries. It also supplied vegetable seeds and seedlings to 82 tribals and subsidy to 674 S. Ts. for plantation of citrus plantation.

(iv) **Forestry :**

The following are the achievements under this sector :

(a)	Mixed plantation	...	305.5 Hect.
(b)	Economic plantation	...	120.0 Hect.
(c)	Reforestation of degraded forest	...	80.0 Hect.
(d)	Farm Forestry	...	1.3 lakh seedlings
(e)	Fruit bearing trees planted	...	2 5 Hect.

(v) **Communication :**

During 1980-83 the Agency had made improvements of the roads of the sub-plan area and developed 874.5 kms. of roads through Block Authorities.

(vi) Supply of Drinking Water :

100 tube-wells and 103 wells/sanitary wells were constructed by the Agency in the sub-plan area for the purpose of supply of drinking water to the tribes.

(vii) Irrigation :

The physical achievements under this sector is as follows :

Source	Irrigation potential created. (in Acs.)
1. M. I. Ps.	1610
2. Water-harvesting structures	65
3. Dug-well energisation	130
4. Mini M.I. Ps	738.8

II Poverty Amelioration Schemes :

These schemes are implemented through the E R R.P., I.R.D.P., I.T.D.A., Micro-project programmes and State plan schemes. Table—III reveals the physical achievement between 1980-81 and 1982-83.

Table—III

Physical Achievement of Poverty Amelioration Schemes

Name of the Scheme	No of S.T families covered during		
	1980-81	1981-82	1982-83
1. E.R.R.P	83	760	321
2. I.R.D.P.	8	524	534
3. I.T.D.A.	596	1622	1458

Source : Sixth Plan Project Report, Op. Cit., p.p. 57-59 (compiled)

III Anti-Exploitation Measures :

One Co-operative Land Development Bank, six LAMPs, two branches of T.D.C.C Ss, and two Orange/Fruit Growers Marketing societies are functioning in the sub-plan area of the district Ganjam for elimination of exploitation of tribals from non-tribes

The Saura Tribes, who are numerically more among the scheduled tribes of the sub-plan area of Ganjam, are identified as the Primitive tribes of the State of Orissa. They constitute the first largest tribal group in the district. They are scattered all over the sub-plan area. They are mainly concentrated in Rayagada and Nuagada blocks of the district To bring alround development of these Sauras, three Micro-Projects are in operation in the district of Ganjam viz., (1) Saura Development Agency, Thumba, (2) Lanjia Saura Development Agency, Seranga and (3) Saura Development Agency, Chandragiri The S.D A., Chandragiri is functioning since 1973. It covers 26 villages in 6 Grampanchayats of Mohana Block with 667 house-holds. The Lanjia Saura Development Agency, Seranga has started its function from March, 1979. It covers 813 tribal families of 21 villages under 2 Grampanchayats viz., Seranga and Ajayagada of Gumma Block. The core programme of these two micro-projects are plantation. In these two micro-projects, the poverty amelioration scheme is also implemented. The Lanjia Saura Development Agency, Seranga covered 563 scheduled tribes and Saura Development Agency, Chandragiri covered 357 tribal families during the period 1980-81 to 1982-83.

In the d strict of Ganjam, there are also some tribals living in pockets out-side the sub-plan area. For the development of those scattered tribes, the Modified Area Development Approach has been conceived in the areas where there is tribal concentration with a minimum 50% of the total population. Accordingly, four such pockets are identified in the district. (Table—IV)

Table—IV

Areas approved/proposed to be approved under Modified Area Development Approach in Ganjam

Name of the pockets	No of villages	Total population (1971)	Total Tribal population (1971)	% of S. T.
1	2	3	4	5
1. Patrapur	146	12,859	8,090	62.9
2. Kasinagar	36	11,013	7,777	61.6
3. Sorada-Dharakote	80	10,253	6,560	60 4
4. Sanakhemundi-Digapahandi	56	10,037	5,013	50.0

Of the four MADAs, one is functioning at Patrapur since 1978-79.

The schemes and programmes launched by Agencies of the district have the following impact on the tribes.

(a) The land shaping and land development programmes, and distribution of waste lands by the T. D. A. had increased the cultivating tribal house-holds by 5%. The percentage of marginal cultivating household increased from 37.43 to 42.89 due to the distribution of reclaimed lands. The T. D. A. had allotted 2 acs. of reclaimed lands to each tribal for settled cultivation.

(b) In the podu ravaged areas, the I. T. D. A. and Micro projects planted fruit-bearing trees which provide the food requirements of the tribes.

(c) Introduction of high and improved varieties of crops by the Agencies has brought about a change in the cropping pattern of the tribals. Mono-cropping has been replaced by multi-cropping and mixed cropping. The demonstration programmes induced the tribals to adopt modern methods of cultivation and use of chemical fertilisers. There has been a very good spread effect and in several villages tribals are taking up cultivation by adopting the package practices which yield them good income. Several new crops and vegetables have been introduced in the project area.

(d) The per-household and per-capita income have increased by Rs. 104.60 and Rs. 12.70 respectively.

(e) Percentage of literacy has increased. It was 10.8 in 1980-81, 11.0 in 1981-82 and became 11.3 in 1982-83.

(f) 32 tribal gothis have been rehabilitated with an expenditure of Rs. 1.11 lakhs till March, 1983.

(g) 38 Acs. of land involving 30 tribals have been restored to the tribals by non-tribal Sahukars voluntarily in the project area by persuation.

(h) Similarly, in the area of Saura Development Agency, Chandragiri, 38.15 Acs. of land belonging to 29 tribals have been restored from Tibetan Sahukars through persuation.

III

Conclusion and Suggestions :

The tribes of the district need two types of measures for their socio-economic change. The different Agencies working in the district of Ganjam in different periods since 1972 protected the social and

economic life of the tribals by enacting Regulations/Acts passed by the State in the tribal areas to eliminate exploitation. The Agencies played vital role by implementing various well-knitted schemes and programmes. While the T. D. A. programmes are mainly for the economic development of the tribes, the integrated approach as is envisaged by the I. T. D. A. is to attack the poverty of the tribals. All the Agencies have changed broadly the outlook of the tribals to a great extent.

It is noticed in the tribal areas of the district that though the development Agencies provided the requrired infrastructures for the economic upliftment of the tribes, yet they are not sufficient to mitigate the needs of the tribal people. For example—

(1) About 82% of the tribal population still depend on agriculture for their livelihood, more than 80% of them depend on rains for agricultural operation due to non-availability of adequate irrigation facilities.

(2) Podu or shifting cultivation is rampant in some psckets of the sub-plan area, inspite of agricultural demonstrations conducted by the Agencies for settled cultivatron.

(3) Due to lack of sufficient road communication, most of the tribal areas are inaccessible.

(4) The level of tribal literacy is very poor in the district There is a high rate of drop-out among the tribal children at the primary level.

Therefore, it is suggested that— (i) more irrigation facilities should be provided in the tribal areas;

(ii) steps should be taken to disuade the tribes from podu cultivation;

(iii) efforts should be made to provide good system of road communication so as to open the tribal areas to the out-side world; and

(iv) emphasis should be laid on education as the key sector for the development of the tribals.

Impact of Micro Water-shed Project on the Tribes of Village Tiparigaon, Phulbani District—A Case Study

Binayak Das

The district of Phulbani is one of the backward districts of Orissa, The total population of the district according to census 1981 is 7.2 lakhs, of which the tribal population comes to 2.8 lakhs. The average rainfall in the district is about 1200 MM. Though this is adequate for both Kharif and Rabi crops, due to uneven distribution of rain-fall throughout the year and occasional long dry spells the district is faced with drought. The total cultivable area of the district is 209 thousand hectares. The total irrigation potential from all sources of the district is 35.4 thousand hectares, of which 25.3 thousand from public sources and 10.1 thousand from private sources. Major part of the cultivated area of the district is unirrigated. So it is necessary to have a comprehensive strategy for development of dry land agriculture. The components of this strategy are :

i) Diversion of land from paddy to non-paddy crops.
ii) Popularisation of short duration paddy.
iii) Early sowing.
iv) Establishement of community nursery.
v) Mixed cropping.
vi) Horticultural programme.
vii) Integrated mini and micro water-shed management
viii) Soil Amelioration
ix) Compact area programme.

The dry land agriculture as is now contemplated is a comprehensive Micro water-shed development with an integrated system of cultivation purely on rainfed crops in a region of low and erratic rainfall to prevent soil erosion and to maintain soil fertility. For soil conservation measures, the entire district has been divided into 39 water-sheds These water-sheds have been divided into 889 mini water-sheds. So far, in 147 mini water sheds different soil conservation measures have been taken in a scattered manner. For a comprehensive development work of soil conservation, agriculture and forest departments, two pilot projects, one in

village Tiparigam of Tikabali Panchayat Samity and the other in village Bijulimendi of Chakapad Panchayat samity have been selected for implementation. Different soil conservation measures like plantation, land reclamation, construction of diversion channels, water harvesting structure. gully control work, pasture development work and counter bunding on uplands and other various measures by the agriculture and forest departments of the district have been implented in the two pilot proiects.

The present study is on the micro water-shed project of the village Tiparigam of Tikabali Block of Phulabani district. The area is mostly inhabited by tribals. The tribals are poor and illiterate. They earn their livelihood depending mostly on agriculture, miner forest produce and also as daily labourers. They are not acquainted with modern farm management. Therefore they resort to the practice of podu cultivation. The total population of village is 163. There are no irrigation facilities availalable in the village. Physiographically the village area consists of hill-slopes, uplands, medium lands and low lands, cut off with gullies and ravines. The hill slope is destroyed due to shifting cultivation. The uplands are poorly bunded and cultivated during khariff. The medium and low lands are terraced and are used for cultivation of paddy. The project is located in the Micro-water-shed ORM 3 3.-16-3-2 (Tiparigam No. 6) The village has a total area of 212 hectares, of which the agricultural land comes to 104.7 hactares and Governmsnt lands 107.3 hectares. The following is the total outlay of soil conservation measures for the period from 1982-83 to 1984-85.

Upto June 1982, an amount of Rs 115.1 thousand has been spent in the 1st phase towards preparation of contour map, soil and land use map of the project. During the 2nd phase i.e. from July, 1982 to March 1983, an amount of Rs. 448 3 thousand has been utilised for different soil conservation measures like plantation of bamboo, sabai, aeacia and cashew in hill areas construction of contour bunds and construction of waterharvesting structure farm pond at suitable sights.

In 1983-84 the following soil conservation measures were implemented in the project area with an expenditure of Rs. 103.3 thousand.

1. Construction of gully control structure.
2. Maintenance of Pantations and pasture.
3. Provision of water lifting devices.
4. Study of water table tn wells as stream flow.

Out lay on Soil Conservation Measures :

Table—I

Sl No	Item of works	Physical	Financial in 1000 rupees
1.	Survey and preparation of contour & soil and land use map	212.1 hect	10.1
2.	Construction of diversion channel.	2591 Mtr	105.0
3.	a) Tree planting	52 hects	32.5*
	b) Agro-forestry	8.4 hects	10.5
4.	Pasture development	6.8 hects	5.1
5.	Contour bunding	80 hects	200.0
6.	Paddy terracing	18 hects	92.9
7.	Construction of water harvesting structures and farm ponds	6 Nos	140.0
8.	Construction of gully control unit	10 units	100.0
9.	Maintainance of plantation for 2 years	8·4 hects	4.2
10.	Maintainance of pasture for 2 years	6,8 Hcs	3.4
11.	Maintainance of different engineering structures	—	63.8
	Total :		735.0

* This amount is not inculded in the total cost of the project as the said amount is to be spent by the Forest Dept.

Of the total outlay of Rs. 735 thousand, it has been proposed that the total amount will be spent on the micro water-shed project in four phases between 1982-83 and 1984-85 (Table—II)

Table—II

Distribution of total outlay on soil conservation measures

Sl.No.	Phase	Year	Amount spent (in 1000 Rupees)
1.	1st	Till June, 1982	115.1
2.	2nd	July 1982 to March 1983	448.3
3.	3rd	1983—1984	103.8
4.	4th	1984—1985	67.8
		Total	735.0

Source : Water-shed management plan of Tiparigam nullah Micro,water-shed Directorate of Soil Conservation, Orissa, p. 17 (Compiled).

Though an amount of Rs. 67.8 thousand was earmarked to be spent during the year 84-65 for maintennance of engineering structure, plantation and pasture, on enquiry it is learnt that at presenf the project is not at work due to non-release of fund from the government.

The followings are the acheivements of the project.

1) Agro-forestry development over an area of 60.4 hects have been done by the forest department in Government waste lands by raising cashew, chakundi, tamarind, mango and jackfruit trees in the hill tops. Further over an area of 6,8 hects of Govt. waste lands, improved fodder species have been grown by the forest department. On contact with the tribes of the village Tiparigam it is learnt that the above lands are still with the government and they have not received any benefit out of the Agro-forestry plantation programme.

(2) With the implementation of the dryland programmes in the project area, an area of 98 hects and 47.6 hects has been brought under mixed cropping during khariff and rabi respectively between 1982-83 and 1983-84. Of the 98 hects of khariff lands the lands of the tribes comes to 57.5 hects. The tribes raised paddy, arhar, groundnut, maize, ragi etc. in khariff and mustard and Nizer in Rabi season.

(3) Execution of plantation programme has also checked the soil erosion,

(4) The tribes have earned a substantial income due to the operational work of the project.

(5) The micre-water-shed project not only promotes soil and water conservation but also provides an opportunity to conserve maximum rain water for agricultural development.

(6) With the implementation of various programmes by the State Government the socio-economic condition of the tribes of the project area has changed by and large.

Conclusion and suggestions :

(1) The project is of recent origin and it is a time bound programme. The development agencies of the State Government have taken various measures to control soil erosion. Further the Agro-forestry programmes, fuel and pasture programme have been taken up widely in the hill tops as well as in the Government waste lands. The trees planted in the hill

tops are in a growing stage now, and are under the disposal of the government. If these lands are transferred to the possession of the tribes, trees can be grown to meet the fuel and fruit requirements of the tribes.

(2) It is hoped that the bamboo plantation programme in the hills will provide ample opportunity for the growth of cottage industries in the district.

(3) Development of the pastures with improved grasses will cater to the fodder needs of the tribes.

(4) In the Government waste lands as well as in Podu ravaged areas more and more fruit bearing trees should be planted to supplement the income of the tribes and to improve their economy as they do not fell the fruit bearing trees.

5) Presently there is the need for the continuance of the projects to improve the socio economic conditions of the tribes of the Tiparigam village.

Tribal Sub-Plan of Orissa—An Assessment

Saroj Kumar Kanungo

The tribal population in Orissa constitutes 22.4 percent of the total population, as revealed by the 1981 Census. The largest concentration of such people is in the district of Mayurbhanj where the tribal population is 57 7 percent of the total population. The next in order of importance is the district of Koraput where the corresponding percentage is 55. The third place in this regard is occupied by Sundergarh with 51% of tribal population. Keonjhar has the fourth place with a percentage of 44 of such people. Phulbani has the fifth place with a tribal population of 39 per cent. In the light of these figures, it can easily be said that the economic development of these districts essentially rests on the development of the living standards of the tribal people. The level of living of these people is much poorer than that of the average rural persons in Orissa. Therefore, development for these people should aim at improving their low living conditions.

Efforts are being made in the state for the development of the tribal people by emphasing three kinds of programmes. These may be classified as :—

a) Family Oriented Scheme :

b) Infrastructure Development Scheme;

c) Human Resources Development Schemes.

During the Sixth plan period an estimated expenditure of Rs. 698 crores has been made for these plan programmes for tribal develoment in Orissa This constitutes nearly 44 % of the total plan out-lay in the State sector. The Sixth Plan aimed at covering 5.5 lakhs tribal families under different income generating schemes. The Draft Seventh Plan of Orissa mentions that by 1984-85 nearly 3.9 lakh families have been covered, out of 5.5 lakh families aimed at under the different anti-proverty programmes Therefore, the target has been reached by nearly 71 percent. Eut the more important point in this regard is the percentage of success achieved in helping tribal families to cross the poverty line. About this, the Draft Seventh Plan points out that an estimation of

1,35,000 families or 30% have been able to go over the poverty line during the Sixth Plan period. There is a clean confession that this figure is not based on any detailed survey. In view of this, even this 30% success appears to be a doubtful proposition.

Let us consider these facts and figures.

1. Total number of tribal families in the state approximately 12 lakhs

2. Approximate number of Scheduled Tribe families below the poverty line at the begining of the 6th Plan. 11 lakhs

   Percentage or (2) to (1) 90

3. Estimated number of Scheduled Tribe families crossing the poverty line at the and of 6th Plan 1.35 lakhs

4. Approximate number of Scheduled Tribe families below the poverty line at the beginning of the 7th Plan 9.65 lakhs

The 7th Plan of the State proposes to cover 6.4 lakhs Scheduled Tribe families under the anti-poverty programmes with the objective of enabling 3.2 lakhs such families to cross the poverty line. Therefore, it is estimated that (1.35+3.20) 4.55 lakh Scheduled Tribe families are likely to go above the poverty line by 1990, i.e. over a decade. This means that nearly 5.5 lakh S.T. families or 60% of the total Sch. Tribe families would continue to remain below the poverty line even after 1990. If only 1.35 lakh Sch. Tribe families could cross the poverty line during the 6th Plan period, on an average it comes to 27000 families per year.

Therefore, it would at this rate take a little more than seven five year plans for remaining 9.65 lakh of Scheduled Tribe families in the State to cross the poverty line assuming that the population in this sector remains unchanged.

Now let us estimate the approximate amount of funds required for this. The draft 7th plan documents of the State mentions that excluding central or centrally sponsored schemes, the total flow of resources during the 6th plan period to the Tribal Sub-plan was of the order of Rs 59,291 lakhs. With this outlay an estimated number of 1.35 lakh S. T. families have been helped to cross the poverty line. It follows from this that roughly Rs. 44,000 are required per family for poverty eradication in this

sector. If we multiply Rs. 44,000/- by 9.5 lakhs families still waiting in the line, the total estimated expenditure comes to Rs. 4246 crores. The 7th plan proposed outlay on Tribal Sub-plan is Rs. 2313.53 crores, aimed at eradication of poverty of 6 4 lakh Scheduled Tribe families. If the average in this regard comes to Rs. 44,000/- per family, then the latter figure multiplied by 6.4 lakhs would give us an amount of Rs. 2816 crores. In other words, our proposed outlay falls short of Rs. 500 Crores to reach the target. This is an inconsistency lurking in the chapter on Tribal Sub-plan in our 7th Plan Document.

Thus, a perusal of the tribal development schemes in our plans shows that these are the same measures of improving the low living conditions as are applicable to other groups in the State The objectives of development in the tribal areas have been stated as raising productivity in the field of agriculture, horticulture, animal husbandry, forestry, cottage industries and the like The methods adopted or proposed to be adopted to realise these objectives of tribal development are in no way different from those in operation in other areas. The measures are provisions of irrigation, co-operative and institutional credit, development of infrastructure, small and village industries and the like. In a sense, there is nothing to be surprised about this similarity in objectives and methods of planned development both in tribal and non-tribal areas. Since, the human beings are the same in both the areas in their physical constitution and the elementary material needs of all human beings are more or less the same, a plan that attempts to cater to the elementary needs of such persons can not possibly have different objectives and methods of realisation in different areas. Moreover, in the absence of a programme to improve the extremely low general level of living of the tribal groups, any special programme for them would appear to be wasteful, if not a mockery. Having conceded this, it must be said that the proposed outlay in the 7th plan to achieve the target set for raising the living standard of 6.4 lakhs of Scheduled Tribe families is much lower than is necessary Another limitation of these measures, as just analysed is the slow progress recorded. The success achieved in lifting up the S.T. families above the poverty line is said to be only 30% of the target. If this rate of progress is maintained, it will take 36 years more to wipe out poverty among the Scheduled Tribes.

It is admitted that the only fruitful way in which the general level of consumption and living of these people can be improved is by providing them with productive work. But it appears desirable that productive

work, opportunities for such people should be created in three spheres related to the exploitation of the basic national economic resources.

These lines are :

1. Agriculture, 2. Forest, 3. Minerals.

Creation of productive work for the Scheduled Tribes in agriculture would necessitate weaning tribal cultivators away from shifting cultivation to settled agriculture. This would be possible if urgent steps are taken for land re-distribution among them form cultivable wastes and surplus lands accruing from land-ceiling measures. Appropriate steps in State in matters may be accorded high priority during the 7th plan in our these the Tribal Areas.

The second resources base for the living condition of the tribals is the forest. They live in and on the forest and depend to a great extent on the latter even if they are engaged in agriculture. Therefore, the tribal development should be inter-linked with the forest economy. The 7th Plan document mentions that it is desirable that poor landless families and tribals living near the forest may be allowed some forest land and thereby be allowed to grow minor forest product trees.

Finally, the development of mines in the forest areas should create employment potentials for the tribals.

The Impact of Employment and Income Generation Under I.R.D. in Sundargarh District of Orissa

Miss Pragati Mohanty

The basic goal ef economic planning in India is to elevate the standard of living of the people through measures which promote equality and social justice. Attention has been directed from time to time for the welfare of the weaker sections and the less privileged class of the society. It was recognised in the fourth plan that planning for developmental activity would by itself not suffice to meet the needs of the less privileged or the downtrodden class. These classes form a large varities of categories whose problems and requirements are widely different from each other This has led to the realisation that isolated attempts and ad-hoc projects or programmes cannot ultimately solve the problems of the rural poor and rural week. This has consequenetly resulted in a new emphasis or integrated rural development for mitigating rural poverty and unemployment.

The I. R. D. in Indian context might be defined as the intigrated development of the area and the people through optimum development and utilization (and conservation where necessary) of local resources, physical, biological and human. It aims at fostering necessary institutional, structural and attitudinal changes and at delivering a package of services encompassing not only the economic development along with the growth of agricultural and rural industries but also at the establishment of the required social infra-structure and services in the area of health, nutrition, sanitation, housing, drinking water, literacy with the ultimate objective of improving the quality of the life of the 'rural poor' and the 'rural weak'. Thus I. R D. is a multidimensional frame work involving a multi-disci. linary approach

Objctives :—The foregoing title itself is indicative of the objectives of this paper.

It attempts to study the extent,

(a) of employment potential created by the grants and subsidies provided by I. R. D. in the tribal region;

(b) the level of income generation of various I. R. D. schemes.

This paper also focusses attention on the deficiencies in the execution of the programme and suggests some remedial measures.

Methodology :—This paper is based on an emperical study of forty families, twenty each from the two villages of Sundargarh district such as Badkachhar and Lahandabud. The villages belong to Sundargarh block. This block consists of near about 42,000 inhabitants comprising of 80 villages. Sundargarh is a Tribal district and this Sadar block comprises of more than 50 per cent of the tribal villages. The two villages under study, Badkachhar and Lahandabud consit of more than 70 percent of the tribal population. These two are very much representative of the tribal villages in the district and so they have been selected.

Data were collected regarding grants and subsidies provided to the selected beneficiaries for the periods 1980-81 to 1982-83. People of these two villages are given grants and subsidies for different schemes like goatery, bullocks, land development and dug-well.

There has been an enhancement of 15 percent employment in case of beneficiaries under bullock scheme in Badkachhar village. But there is no indication of any increase in employment opportunities under the schemes like goatery and dugwells in both the villages

The generation of income among beneficiaries under the goatery scheme has failed due to the supply of disabled and diseased goats. The loan exception is the case of one beneficiary of Badkachhar who was able to generate 70 percent income under this scheme.

It is worth while to mention here that their status below the poverty line makes the calculation of their income incredibly arduous and conjectural.

Deficiencies in the Programme :

1. Delay in sanctioning loan :

During the survey it was found that a common problem with all the beneficiaries was that loan was not sanctioned to them in proper time, and they were not aware of the subsidy componet at the time of sanction of loans. Infact it was only mentioned in the pass book but actually they were not given subsidies. It was also noticed that no

attempt was made by the government to identify the specific needs of the individual beneficiaries or to cumpute their income level before giving assistance As a result the person who is a small farmer and is in need of bullock is given the grant under the scheme of goatery. This implies that the beneficiaries should be made aware of the subsidies and they should be given grant for schemes according to their specific needs and choices.

2. Deficiencies in the supply of qualitative inputs :

This poses another problem for these two villages as there is no veterinary hospital there and there is absence of veterinary surgeon although there is a hospital in Lahandabud. They have to borrow the services of a veterinary surgeon from the near-by village in order to meet emergency. Also the fund supplied for medicine by the government is very meagre, worth only Rs. 900/- per annum. Due to lack of proper treatment, most of the animals meet untimely death A scheme like animal husbandary cannot succeed without adequate medical assistance.

3. Inadequate fund for dug-well :

The scheme of dug-well is same as goatery. As the beneficiaries under the dug-well scheme are not given sufficient amount of fund, they fail to acheive their objective. Hence the Govt. should provide more grants for dug-well schemes.

4. Lack of proper education :

Most of the tribals are illiterate Lack of awareness is a great impediment to developmental work. So the government should establish schools with hostel facilities and appoint specifically female teachers having knowledge in tribal language for improving educational facilities. This will also help social consciousness.

5. Wrong selection of schemes :

Before selecting any scheme for assistance a detailed study should be made regarding the feasibility of a scheme of aptitude of the beneficiaries. For example, bullocks should be provided to small and marginal farmers and not to landless labourers. Otherwise the scheme cannot be succesful.

Planning and the Tribals—A case study of Kanipokhari in the district of Puri.

Dr. R. K. Choudhury

Objective & scope of the study :

The purpose of this paper is to make an enquiry into the nature and causes of the problems of the tribals and the impact of development programmes in the tribal villages. This study is localised to the problems of the Kandhas of Kanipokhari. It is a small village in Gania P. S. under Nayagarh Sub-division in the district of Puri. The village consists of 50 families and nearly 400 people. Being surrounded by high hills the village has a scenic beauty. The village had its origin nearly fifty years back and all the families belong to Kandha tribe.

Methodology :

The village was surveyed by the author himself during the last week of December, 1984. As the number of families were small, it could be possible to contact the heads of the families with a piece of questionaire and the responses were recorded.

Findings :

Each family in the village consists of father, mother and on an average five children. Each family holds a thatched house consisting of two rooms. Some 10 to 12 years back, 12 two roomed quarters were constructed by the Government under Tribal Housing Scheme. Out of the quarters constructed, 10 quarters have already collapsed where the remnants just indicate their past existence. The rest two tile roof quarters remain but are not habitable. The very atmosphere, at the first sight, appeared dull and lifeless. The unhealthy and unhygienic surrounding of the village is probably responsible for this. People generally keep their domestic animals in front of the house. As auch, animal dung scattered throughout gives a nasty look and bad smell.

Economic Condition :

The Kandhas of Kanipokhari appeared poverty-stricken at the first instance. The type of dress which the members of the families wore and

the physical appearance did not give any indication of material possesion. The type of food which the families are accustomed to, is also indicative of the magnitude of their poverty. It was seen that a Kandha woman was taking some cold rice with only salt. It was the habitual food intake.

In the entire village only one family holds 17 to 18 acres of land. All the rest hold one to two acres Main crop is paddy though mustard, biri and mandia are grown occasionally on uplands In the absence of irrigation in such hilly lands, double cropping is never attempted to. The entire village depends upon one well and a tank constructed at the initiative of the Government but the well is in a broken state and the tank is unable to hold sufficient water during winter. Such being the case of availability of water, on an average 3 bags of the principal crop, paddy, is grown. It is natural that the people will depend upon daily wages as hired labour. But it is surprising to note that the male members of the Kandha families generally, by nature are more painstaking but less hardworking They can take pain by going without food. They are not only idle in temperament but have a strong aversion to hard work. It is rather the Kandha women who probably for their love for children are more handworking.

The poor economic condition and the apathy of the people for work leads generally to indebtedness. A discussion with the heads of the families revealed the hard fact that the head of the family normally borrows from the money lenders of Chhamundia, a village about 5 kilometers from Kanipokhari. This is mostly as an advance against crops which are paid back immediately after the crops are grown. This is the normal method of exploitation of the tribals. It was noted with surprise that crops were paid back to the money lenders at the rate of Rs. 40 per bag as against Rs. 90 per bag in the market in the cropping season. It is Interesting to note that the money-lenders and the business men advance loans against tho fruits like lemon, plantain etc. before the plants bear fruit.

Co-operatives in the Tribal Village :

Co-operatives are estsblished to ameliorate the economic condition of the poor. In this village no such organisation exists. In Chhamundia a Co-operative Credit Society exists which also covers this village. But the co-operative helps more the rich than the poor. Co-operative loans are against security and not to meet the emergent

situation when the poor need loan. Though t he Kandhas of this village borrowed from the Chhamundia Co-operative Society, they are unable to obtain sufficient loans at the time of needs. One will bear in mind that the credit societies are controlled by the well-to-do class who make constant effort to maintain the existing order and though the social untouchability has been reduced, economic untouchability has come up in added vigour in a new and varied form Kandhas usually borrow on festive occasions and the tradition bound Kandhas prefer starvation in order to observe festivities with pomp and splendour. This is responsible for mounting indebtedness of the villagers.

It is interesting to note that the families occasionally build chancheras made of bamboos and sell them to different persons in Chamundia. Within a forest area there is ample scope for undertaking cottage units for harnessing forest products Rarely, officers connected with socio-economic development go to the village. Till the end of 1984, unfortunately, the village could not be touched with any type of scheme either meant for the poor or meant specially for the tribals.

Education :

Educational system and the economic structure of a country are some what interlinked. Education is both a flower and seed of economic development. In a tribal village education is usully at a very low ebb. There is no school at all of any traditional variety in the village. It is disheartening to note that no one in the village has been able to be a service-holder of any type, despite the reservation scheme of the government, for want of any education. Only one among all the population of the village could go up to class IV who was reading in Chhamundia U. P. School. About 92 percent of the villagers are illiterate. It was felt that the parents have no aptitude for education and are not interested to send their children to school. As Chhamundia U. P. School is at a distance of five kilometers and a child has to pass through the forest and the hill, the parents are naturally disinterested to send their children to the school.

A non formal school, with a matriculate untrained teacher on a consolidated monthly pay of Rs. 105/- per month, has been opened since March, 1984. It is also interesting to note that this teacher whose daily wage on an average comes to Rs. 3.5 has not been able to receive his pay since his appointment till the end of December, 1984. It will be folly to expect sincerity and hard work from a teacher of such category. The daily attendance of students in this school, belonging to class I & II only, varies from 10 to 12 as against 25 total strength. It is still more intresting

to note that no teaching materials (books & slates) have yet been supplied to the small children of this school and the students are reading without such teaching materials. Moreover, the students of this non-formal school will appear at their examination in the Chhamundia U. P. School for taking admission to a particular class

Family Welfare :

There is no doubt that the families are burdened with children. Family planning is an instrument of social change. It aims at creating better parents, healthier chileren and happier homes. In a village where the people are poverty-stricken, uneducated and illiterate, one cannot think of planned family.

Tribal Development through Milch Animal Scheme

Lalit Mohan Sahoo

The development of Scheduled Tribes has been receiving increasing importance since the beginning of the planning era.

Special efforts have been made in various Five Year Plans and a large number of schemes have been devised and these plans have made significant improvement in the life of the tribal people. The strategy of tribal sub-plans has begun yielding positive results. Investment in successive plans has progressively increased. In the light of the foregoing plans and activities, we can look forward to further improvement in the quality of life for millions of tribals and their joining in the mainstream of national development.

Objectives & Methodology :

In this paper it is proposed to assess the economic viability of milch animal scheme under I.R.D. Programme on the income status of Scheduled Tribes of a village.

The objectives are as follows—

1. To study the Socio-economic profile of miik producers in the village.
2. To study the economics of milk production.
3. To suggest policy measures on the basis of field findings.

To measure the above objectives, 50 milk producers (Scheduled Tribes) in Silisuan village of Keonjhar district were interviewed with the help of a simple questionaire. These producers were interviewed at random. As a part of the study some of the questions were directed to find out the problems faced by the producers.

Study area :

The study village 'Silisuan' is under Sadar Block of Keonjhar district about 12 Kms. away from the district headquaters towards the

North i. e. Keonjhar-Rourkella State High Way. The total number of households in the village are 135. The total population of the village is 800 and all are either S. C. or S. T. The rivulet 'Machakandana' flows by the side of the village. The major crops produced in the village are paddy, maize and groundnut. The predominent activities of the people in the village are agriculture. Dairy farming is adopted as a subsidiary occupation by the majority of the villagers.

Profile of Milk Producers :

The present study deals with the impact of milch animal scheme directly implemented by I.R.D. programme. 50 families have purchased cross breed cows under the scheme in the year 1982-83. The cows were supplied on 50 percent subsidy. Informations regarding the loanees or beneficiaries were collected from the Sadar B. D. O. Office, Keonjhargarh and I.T.D.A., Keonjhargarh. Out of 50 Scheduled Tribes 14 persons or 28 % were wage labourers, 31 persone or 62 % were cultivators-cum wage labourers and 5 persons or 10 % were cultivators-cum-businessmen before the adoption of the Scheme. 6 Scheduled Tribes are landless labourers 13 Scheduled Tribes have land less than 1 Acre and 31 Scheduled Tribes have land in between 1 to 3 Acres of land. 16 Scheduled Tribes have got Primary Educaction 4 Schduled Tribes have got M. E. standard and 30 Scheduled Tribes are illiterate. These tribes belong to the caste of Sahar and Saunti. Average family member size is 5 3.

After the adoption of the Scheme 28 or 56 % are engaged in cultivation with Dairy Development, 8 or 16% are engaged in Dairy Development and Wage labour, 9 or 18% are engaged in Dairy Development and 5 or 10% are engaged in cultivation, Dairy Development and business. In one case after 15 days of the purchase, the cow died. In other two cases 2 cows are giving no milk at all So out of the 47 cows existing now, on average 1 cow gives 6 1 litres of milk. In 9 cases the cows are giving 9 to 10 litres of milk. In 35 cases the cows are giving 5 litres or more than 5 litres of milk The average price per litre is Rs. 2 50. In a few cases it is Rs 3.00 All the milk preducers are giving milk to the Society formed in the village In 5 cases the present value of the stock is negative. Excepting in a few cases, the cows supplied under this scheme are good. Regarding loan repayment, 4 persons have already cleared the amount in full, 29 persons have partly paid and 17 persons have not paid any amount. In most of the cases the persons

after the adoption of the scheme are not going to other houses for manual work or wage labour. Overall conditions after the adoption of the scheme is good. They complain that in many cases calves are dying due to lack of proper medical checkup and they are not able to grow fodder cultivation due to shortage of water which is a must for a Dairy Development. When asked what they want for Dairy Development, all favour lift irrigation. 6 persons under this programme are in favour of another cow, 5 persons are in favour of goats or sheep, 10 persons are in favour of different kinds of business and rest do not want to take any loan There is net personal benefit of the scheme in 47 cases and net personal loss in 3 cases. There is net benefit to the society considering the loan given in 34 cases and there is net loss in 16 cases. In 28 cases there is a positive gain including loss of personal wage foregone and in 22 cases there is a positive loss when cost of personal labour is included.

There is now a dramatic change in the socio-economic condition of the people after the adoption of the scheme A chilling plant under 2,000 litre capacity is already installed in this area. Recently a chilling plant with 10,000 litre capacity is under construction in this village. The philosophy of self-help and mutual help is widely applied here. For the first time a socially and economically downtrodden section of the community are in the stage of take-off. They now look forward for better days. From the observation above, it can be said that successful are those who have at least 1 to 3 Acres of land. Those who are getting benefit are mostly due to assured marketing facility of milk and good qualities of cows.

Problems of the milk producers :

The most important problem faced by the tribal households was lack of finance Institutional finance facilities are not available in this village. Hence it has become one of the important bottlenecks to the development of Dairy Industry.

Lack of finance is hindering the purchase of good cattle feed and also improved breed.

There is no supply of cattle feed in the village. Some households go to Keonjhargarh which is 12 Kms. away from the village for purchasing cattle feeds. The feed supply within the village is very costly. Due to this, the maintenance cost per milch cattle increases to a great extent.

There is no Veterinary Hospital within the village and for that they have to go 3 kms. from the village for treatment. Medicines are not available in the Hospital. Milk rates according to them are not profitable.

Suggestion :

Based on findings of this case study and informal discussions with the villagers and other officials of Animal Husbandry Department, the following suggestions are made to make the milch animal scheme more effective in the area and in the district. The tribals should have basic knowledge of training of maintaining quality cows. There should be more stress in the cultivation of fodder. They should get cattle feed at a subsidised rate. Milk rate should be increased and Government should take care of supplying quality animals by establishing breeding farms. Proper incentives must be created for supplying milk to the Co operative Societies. There should be exhibition show to create awareness among the beneficiaries. At least one L. I. should be in charge of one village to look after high yeilding milch cows.

Concluding Remarks :

'Tribal Development' is an integrated concept. This concept implies technical, economic, social and cultural development of tribal areas. Provision of empl yment and improvements in productivity of tribes resulting in growing income, particularly among the poor tribes are among the most important components of tribal development. Therefore, special efforts are needed to improve the efficiency of workers as well as the levels of living of the tribals In formulating plan strategies, factors such as work patterns, preferences, attitudes and skill of tribals need to be considered At the same time problems of poverty not only include employment but also other factors such as health, nutrition, education and welfare aspects. Both short term and long term aspects of tribal development should be built into the very nature of tribal development. The development of agriculture, diary development should go hand in hand with the development of Agro-Industry and other rural crafts. These aspects should form an integral part of tribal development.

Impact of Development Schemes on Tribal Life and Economy

— A Case study of Bisra Block in Sundargarh District

K. N. Mohapatra

The various tribal developmental schemes which our State and the Central Government are emphasing upon since last few decades are essentially an approach which seeks to narrrow down the socio-economic gap existing between the tribal areas of the State by improving the quality of life of the people living in such backward areas.

A study has been taken up in the Bisra Block in the district of Sundargarh to findout the impact of the developmental schemes undertaken by the Government.

Bisra Block with a population of 46,560 covering 87.67 kms. of geographical area is situated in the north-east corner of the Sundargarh district touching the border of Bihar State. Bisra, the Head quarters of the block is 13 Kms. away from Rourkela city. The Block was started from April, 1955 as N.Es block and subsequently converted into C. D. Block in October. From 1st April 1976, the Block has come under the ITDA scheme. Bisra Block covers 9 grampanchayats and 71 villages. Out of 46,560 population, according to census 1981, S. Ts. constitute 51.27% S. Cs. are 6 61% and others 42 12%. The total SC and ST population in the Block is 26,950 and it is 57.88% of the population. The rest 42.12% is mixed population migrated from Bihar, M. P. and other districts of Orissa. The number of mixed population is the maximum in Bisra, Jhirpani and Bondamunda.

The various schemes which have been undertaken to counter-act the vicious circle of poverty and to set in motion the upward progress in the Bisra block can be analysed with reference to the political, social and economic aspects of tribal people. On account of various developmental schemes, a distinct transformation is visible in the general life pattern of tribal people. The following are some of the improvements :

Education :

Number of Educational Instiuturions :

High Schools	...	3	Nos.
M. E. Schools	...	11	Nos.
Primary Schools	...	49	Nos.
Primary Mission	...	6	Nos.

ITDA Asram High School...	1 No
,, Sevashram schools...	5 Nos
Secondary Training School...	1 No
Mission L. P. Schools...	2 Nos

Student Strength :

Schpols	S. T.		S. C.		Others	
	B	G	B	G	B	G
Primary Schools	2278	1193	205	97	1215	600
M.E. Schools	645	279	62	16	340	135
High Schools	515	122	43	13	513	207
Total	3438	1594	310	126	2068	942

Percentage of students :

Out of 8478 Nos. of students in different school stages the percentage of different categories of students are given below :

S. T.	...	59.35%
S. C.	...	5.14%
Others	...	35.51%

No. of Hostels :

Bisra High School	...	1
Maraikela M.E. School	...	1

One low cost hostel with 50 boarders financed by ITDA is functioning in Erla Sevashram School.

N. T. Books :

In the year 1984-85, a total number of 7950 N. T. books were received for free distribution to SC & ST students in primary level Students in 57 number of schools were benefited by such free distribution. The amount of scholarship given to SC & ST students are indicated below,

Pre-matric Scholarship :

Year	SC		ST		Total	
	B	G	B	G	B	G
1982-83 M.E.	27	14	405	188	432	202
H.E.	22	9	347	84	369	93
1983-84 M.E.					392	183
H.E.					252	53
1984-85 M.E.	48	18	354	188	402	206
H.E.	28	13	247	116	275	129

Housing Scheme :

Under integrated Housing Scheme, Bisra Block has received Rs 33,000/- and the achievements are hereunder.

Year	Amount sanctioned	No of houses	Houses allotted to		
			SC	ST	Others
1982-83	Rs 50,000/-	33	20	11	2
1983-84	Rs 3,000/-	2	—	2	—
1984-86	Rs 30,000/-	20	7	11	2
Total	Rs 83,000/-	55	27	24	4

Nid-Day Meals :

123 Nos. of mid-day meal centres are functioning in the block area under report. Out of these, 36 in schools and 87 through Mahila Samities and 7800 students in total are benefited by CARE food-stuff. Out of these, 5020 are ST students and 625 are SC students.

Achievements of miscellaneous beneficiary scheme under ITDA is noted below :

Miscellaneous beneficiary under ITDA

Amount	year	Diary	Small Trading	Goatery	Pisci-culture	Bullock cart	Tail-oring	Others
2,69,400/-	81-82	15	33	62	Nil	6	7	7
2,85,415/-	82-83	2	6	42	5	17	21	51
5,57,082/-	83-84	Nil	46	19	4	16	17	96
10,11,897/-	4 years	17	85	123	9	39	45	154

Besides 40 persons have been benefited under sericulture scheme by Taussar Rearing Society.

Rural Electrification Programme :

Out of 71 villages under 9 grampanchayats 45 nos. have been electrified.

Lease of Waste Land :

Under the 20 point programme, 194 ST families have received Ac. 388. 94 Dec. and 2 SC families have received Ac. 1.79 Dec. of waste land for cultivation.

Further, 133 persons have received house-sites from the Govt. Of them, 89 are S.Ts., 20 are S. Cs. and others are 4.

Irrigation Programme .

The progress in irrigation in 1983-84 as stated below :

		Khariff	Rabi
L.I Points	7 Nos.	184 Hects	148 Hects.
M I Ps.	5 ,,	28.8 ,,	14.0 ,,
M. I. Tank	6 ,,	26.0 ,,	13.0 ,,
L. I. Point (Pvt.)	1 ,,	30.0 ,,	30.0 ,,
Dug-well	243 ,,	125.0 ,,	80.0 ,,
	Total	393.8 Hects.	285.0 Hects.

Co-operation :

There is one large size Aricultural Mulipurpose Co-operative Society to meet the demand for inputs of the local tribal people. It provides controlled goods like cloth, wheat, sugar, rice etc. through its 5 Sales Counters in different villages in the Block. Further agricultural loans, irrigation loans are also provided to the people. The Land Development Banks, all Nationalised Banks and the LAMPs participate in the agricultural development programme as the Loan agency. The Block has at present 28 pumpsets to irrigate 44 Hects. of land at 121 L. I. points. Dug-wells are not giving expected result due to hilly area excepting in the low lands where the water level is high.

A few observation can be made regarding the implementation of different programmes.

(i) It is observed that the formal schemes which are implemented through various Govt. agencies are project oriented rather than result

oriented. Most of the schemes are never time-bound. Provision of agricultural inputs are quite irregular due to redtapism. In spite of legal restrictions on transfer of land from the tribal people to others, transfer is done as usual. As long as they are illiterate and have serious weakness for liquor, the legislations will carry very little impact. In certain cases goatery, piggery, poultry and diary schemes have failed as such productive birds and animals have been consumed by them in different social functions. In some cases, cattle have died due to lack of food, shelter and veterinary care. This has aggravated their indebtedness leading to sale of the only piece of land.

(ii) The institutional assistance fails to achieve its results. The assistance given in kind has been sold at a very low rate or bartered away for liquor to the contractors or other people who are more self-conscious.

(iii) Inspite of assistance by the Govt. attendance in L, P. Schools and High Schools in the area is very low. As the teachers indicate, it becomes difficult to bring the tribal students to schools. The teacher without quarters, without regular payment of salary and other amenities lead a depressed life and hence have little interest for promoting education.

(iv) The maketing system in tribal region of Bisra has not undergone any substantial change, Inspite of TDCC which is a procuring agency. The middlemen still continue to exploit the tribals by paying a low price while purchaging agricultural and forest products from them.

Suggestions :

1. A single point contact for purchase of inputs and sale of outputs with some amount of rationalisation in pricing of both products.

2. Provision of after-care measure in matters of agricultural development and cattle farming.

3. Top priority on intensive education in such tribal areas. Abolition of pre-matric and post-matric scholarships and introduction of assistance in the form of study materials and books directly to the students. Teachership for 5 years in the tribal area should be made compulsory for all teachers with certain provision of better living.

4. Frequent evaluation and assessment of progress through independent bodies may bring better result.

5. Assured irrigation facilities should be provided in the tribal region to remove unemployment and to increase agricultural productivity.

Tribal Economy—A Regional Study

(With special reference to Koraput District)

Jagabandhu Samal

Tribal Economy in India differs. It varies from region to region on account of differing ecological conditions and the degree of transformations that have taken place in course of time. Tribals in the country are at different levels of economic development, ranging from food gathering and shifting cultivation to settled agriculture.

Tribal Economy of Koraput :

The present study is related to Koraput District. It is one of the biggest districts in India covering a geographical area of 27,020 sq. Kms. As per the census report of 1981, out of the total population of 2,484,005 in the district, the Scheduled tribe population numbered 1,371,550 which amounted to 55 21 percent to the district population and 23.18 percent to the total tribal population of Orissa. There are as many as 52 categories of Scheduled Tribes in Koraput district out of 62 tribes in the State. The entire district of Koraput has been declared as Scheduled Area Out of 14 most primitive and back ward tribes living in Orissa 13 such tribes live in Koraput district.

The Main Economic Problems :

The tribals in general and of Koraput District in particular are backward both socially and economically. Some of the available surveys and reports indicate that the work participation ratio among the tribal people is comparatively higher than that of the non-tribal population.

Table—I

Work participation Ratio among the S. Ts and Non-Tribals with general average for all population. (1971)

Dist/State	Tribals			Non-Tribals			General		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Koraput	62.23	10.53	36.41	57.65	8.04	33.38	60.21	9.46	35 09
Orissa	58.88	10.97	34.84	52.26	5 54	30.13	55.32	6.81	31.22
India	55 90	20,74	38.50	52,25	11,17	32 50	52.61	11.86	32.92

Sources : Calculated from the Census of India, 1971

Series I Paper II c (i) Social and Cultural Tables.

The table given above indicates that from among the tribal population of Koraput District 62.23 percent of males, 10.53 percent of females and 36.41 percent of the total tribal population were workers as against 57.65, 8.04 and 33.38 respectively for the non-tribal population. These averages were also higher than that of the general population of the district The same trend is also found in respect of the Scheduled Tribe population of Orissa and India.

Similarly, it was observed that the regions which had more concentration of tribal population generally, depicted a situation of less unemployment rate.

Table—II

Rural Unemployment rate

Region wise—In Orissa/India (1971)

Regions	%of S.T population	Rural unemployment rate
Orissa		
1) Coastal	5.40	17.07
2) Southern	45.51	5.28
3) Northern	35.46	10.72
All India	7.00	7.83

Rural unemployment rate calculated as % of mandays.

Source : Planning Commission, Draft Five Year Plan 1978-83 Delhi P.p 113—116 (Calculated from N. S. S. 27th Round 1972—73)

The table given above indicates that in the Region II (Southern) of Orissa, which included Koraput District and other mainly tribal districts of Ganjam, Boudha-Kondhamals and Kalahandi, the unemployment rate was 5.28 percent as against 17.07 for coastal and 10.72 for Northern Regions respectively. The concentration of tribal population in the Southern Region of Orissa was 45.51 percent as against 5.40 and 35.46 percent in the Coastal and Northern regions respectively. Another estimate based on 1961 census data indicates that the rate of unemployment for the S.T. population in India was lower than the general population. The Table—III given below indicates the situation.

Table—III

Unemployment Rates : General and ST Population, India,1961

Total		Male	Female
General population	0.74	0.99	0.20
S. T. Population	0.16	0.23	0.06

Source : Rayapa and Grover : Employment Planning for the Rural Poor A case of Scheduled Castes and Scheduled Tribes P. 79

(Calculated from the census of India, 1961, Vol. Part II c (i).

These facts indicate that in a tribal economy a larger percentage of population is found to participate in what is described economically gainfull activity . In comparision to the non-tribal population in a tribal economy men, women and children are engaged in large proportion in some kind of activity or the other. The proportion of time (i.e. days) spent by these workers in such gainful work also appears to be on the higher side. There is enough evidence to show that the input of labour measured in terms of man-hours per day and man-days per year are much higher among weaker sections. The w rkers belonging to Scheduled population are no exceptions to this rule. Infact the working hours per day or man-days per year should be on the higher side for the workers belonging to scheduled groups.

The Government under planning have put considerable efforts to develop the tribal communities. The national effort for the development of the Scheduled Tribes and Scheduled areas has two important components, namely, protection and development. It was thought that elimination of exploitation coupled with rapid socio-economic development could alone bring lasting benefits to these groups. Constitutional safe-guards in reservation of posts in services and political fields, special legislations for protecting economic interests and elimination of exploitation and implementation of special programmes for educational and socio-economic development aim at achieving the two pronged objective mentioned above.

Measures Undertaken :

In order to prevent exploitation of the tribals the State Government have enacted a series of legistations namely, Regulation I of 1948, Regulation II of 1956 regarding transfer of immovable properties, the money lenders regulation and debt relief regulation (Regulation I of 1968).

Simultaneously for controlling the anti-social activies of the money-lenders, Regulation II/68 has been enacted. Subsequently to combat the age old hatred practice of Bonded labour the Bonded Labour System (Abolition) Act 1976 was promulgated in place of Regulation 1/48. In order to purchase the surplus products from the tribals and to supply them their requirments different branches of State Tribal Development Co-oporative Corporation are functioning in the district. Large-size Multipurpose Co-operative Societies (LAMPs) and Regional Marketing Co-operative Societies also aim at saving the tribals from exploitation in marketing and financing front.

The entire district of Koraput has been covered under special tribal development projects for the uplift of the tribals and other weaker sections. Inorder to implement the development programmes six Integrated Tribal Development Projects (ITDP) have been set up in six Sub-Divisions of the district. The infrastructures development and economic benefit schemes are being taken up under National Rural Employment Programme (NREP), Economic Rehabilitation of Rural Poor (ERRP), and Integrated Rural Development Programmes. The development land-base schemes includes annual cropping and plantation. The provisions under Animal Husbandry schemes include the supply of Dairy, Goatery, Duckery and Poultry units. Non-Agricultral Employment schemes cover Tailoring, Small shops, Bullock carts, Handloom, Lac, Laundry, Cycle Rickshaw, Carpentry and Saloon Units. Added to these Fishery Schemes are implemented to suitable places. The categories of works executed under NREP include village forest, avenue plantation, wells, tanks, soil and water conservation and reclamation, construction of rural roads and buildings.

Inorder to wean away the tribals from the pernicious practice of shifting cultivation, 29 Adivasi colonies were established during 1st and 2nd plan periods in Koraput distict and another colony was established during 4th plan period. Moreover, under the scheme of Rehabilitation in Dandakaranya Project areas 29 Adibasi Colonies with 1244 families had been set up. Although these colonies are continuing to function, there has been desertion of tribal families to a considerable extent. This land colonisation schemes have met with failures on account of faulty planning and implementation.

Inspite of the fact that work participation ratio among the tribals being more, rate of employment being higher and the Government having been put considerable efforts for the econocic development of the

tribals, their socio-economic conditions remain far from satisfactory. The low level of income and asset holding positions in the tribal dominated areas of the country give an indication of the economic backwardness of the Scheduled Tribe population. The table given below indicates the average rate of earning of small cultivator households and non-cultivating wage earning households in the heavy tribal concentrated southern region of Orissa.

TABLE—V

Average earning (Rs) in Agriculture and other Activities for small cultivators and wage earner house-holds (Region-wise) Orissa.

	Small cultivator households		Non-cultivating wage earning house-holds	
	Male	Female	Male	Female
All India	2 17	1.41	2.40	1.45
Orissa State	1.77	1.24	2.01	1.18
1) Coastal	2.04	1.37	1.97	1.36
2) Southern	1.34	1 00	1.54	0.97
3) Northern	1.76	1.34	1.85	1.23

Source : N.S S.O. April, 1976 Number 2.70 P. P. 15—22 Time Deposition and Wage rate for Economically Weaker Section of Rural Population of India,

In the Region II of Orissa where the concentration of tribal population is the highest (which also includes Koraput Dist.) the average earnings of males and females are comparatively lower than the other two regions.The average earnings of small cultivators males and females (i. e. Rs. 1.34 and Re. 1 00 respeetively) are lower than the other two regions. Similar is the case with the average earnings of non-cultivating wage-earners households. Again it was estimated that the average asset holdings per rural households of small cultivators in Region II of Orissa were the lowest in the country. i. e. Rs 3,852. It was about two thirds of the State's average. On the other hand the average asset holdings of artisans and agricultural labour households were estimated to be between Rs. 500/- to Rs. 700/- in the tribal regions Another estimate on monthly consumption standard of the weaker sections in rural areas . All India Debt and Investment Survey (1971-72) indicates that the regions having more concentration of tribal population had, generally lower consumption standard in terms of money expenditure. For

example, the household monthly consumption expenditure in Southern Region of Orissa was Re. 15.37 as against Rs. 20.10 and Rs. 24.50 for the Northern and Coastal regions respectively (1970-71) . All these estimates of income, asset holdings and consumption standard cannot be said to give exact picture of the tribals economic condition as the data include non-tribals also. Neverthless, they are indicative of the economic condition of the regions where tribal population is signaficantly large. They also show that the rural households of Southern Regions of Orissa (which include Koraput District) are economically the most backward in the whole country. Possible causes of the Economic Backwardness of the Tribals in the District :—

a) The forest areas of the District are progressively declining on account of ever increasing shifting cultivation, large scale deforestation to establish different projects and illiat fillings. The total forest area of the District to its total geographical area was 63.8 per cent by 1966-67 and by June 1983 it was reduced to 29 per cent.

b) The Govt. has declared the practice of shifting cultivation illegal, Old Podu lands are gradually taken up under new plantation.

c) A lot of restrictions have been imposed by the Govt. on the use of forests by the tribals.

Hence the great economic base of the tribals, the forest is no more able to support them, as in the past. But the attitude of the Adivasi as a free man of the Nature still persists in him.

d) Agricultural productivity of the hilly lands is fast declining.

e) The availability of the terraced and developed fields for cultivation in the tribal country is limited in its scope.

f) A major portion of the terraced lands and plain lands have gone to the hands of non-tribals on account of large scale land alienation in the past.

g) Uncertain rainfalls and weather conditions caused by deforestation in recent years have resulted in constant crop failures in the District.

h) The alternative economic benefit schemes implemented in tribal areas in recent years are mostly meeting with failures. The reasons may be outlined as follows :

i) Inability of tribals to scope with the changing employment patterns;

ii) Lack of initiative and enterprise among the tribals. By nature a tribal is a man of the moment. Thrift and profit motive in economic dealings are generally absent in them.

iii) Influence of pressing immediate socio-cultural demands with extravangance in feasts and drinks lead to unproductive use of the benefits received, either cash or kind.

iv) Defective planning and implementation of the Schemes result in utter failures in most of the cases. The environmental conditions, tribals' socio cultural background and his aptitude and experiences are not properly examined in most of the cases before implementing a particular scheme.

v) Lack of sincerity and honesty among the implementing personnel in some cases results in the failure of the Schemes.

Under the changing ecological conditions, the traditional occupations of the tribals are gradually failing to support their economy. Hence, reliance has to be made on alternative economic Schemes. But the above analysis shows that due to certain socio-cultural and administrative factors these schemes have mostly failed in achieving the desired goals. What is needed now is to study the tribal problems from more practical angle and find out the real lacuna in implementation of these benefit schemes. Separate economic benefit schemes have to be chalked out for separate ecological settings in which tribals are living. Ecological variations of the region call for different types of employment opportunities As socio-cultural factors and economic life of the tribals go together, the economic benefit schemes must take into account the non-economic factors, in their plan and implementation stages. All these need micro level planning Micro-level approach to developmental schemes with adequate orientation can make the programmes successful. For this what is needed is a band of trained, sincere, hard working and people-loving workers They may be called as the 'agents of change'.

The Orissa Economics Association

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1968	— Ravenshaw College, Guttack	Dr. S Misra
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1979	— Utkal University, Bhubaneswar	Dr. K. Kanungo
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