

IMPACT OF AGRICULTURAL MODERNIZATION ON SUSTAINABLE LIVELIHOOD AMONG THE TRIBAL

SABINA BEGUM

Assistant Professor, Department of Philosophy, Gushkara Mahavidyalaya, Gushkara, Burdwan, West Bengal, India

ABSTRACT

By sustainable development, we mean development forever. It is the path of development by which one can raise its consumption without reducing the availability of it for future generation. So it is not a short term phenomena rather it has a long run perspective. Livelihood development is defined as adequate and sustainable access to income and resources to meet basic needs. Livelihood strategies are the combination of activities that people choose to undertake in order to achieve their livelihood goals. Agriculture is the primary source of livelihood for the overwhelming majority of the tribal population in India. Agricultural modernization has since long been introduced in the tribal areas of West Bengal, primarily with a view to raise the level of income, standard of living and lifestyle of the tribal people. The Santal is one of the largest tribal communities in India and also in West Bengal. The Santal of West Bengal is broadly known as an agriculturist tribe. The Santals are getting the benefit of agricultural modernization one way or other. The present study reveals the extent and nature of socio-economic changes among the Santals due to agricultural modernization. It can be undoubtedly concluded that in the course of their contact with the larger society and due to the adoption of modern agricultural technology, there have occurred many economic, social and cultural changes among them.

KEYWORDS: Sustainable, Development, Livelihood, Tribal, Agricultural Modernization, Changes

INTRODUCTION

The sustainable livelihoods idea was first introduced by the Brundtland Commission on Environment and Development as a way of linking socioeconomic and ecological considerations in a cohesive, policy-relevant structure. The 1992 United Nations Conference on Environment and Development (UNCED) expanded the concept, advocating for the achievement of sustainable livelihoods as a broad goal for poverty eradication. It stated that sustainable livelihoods could serve as 'an integrating factor that allows policies to address 'development, sustainable resource management, and poverty eradication simultaneously'.

The concept of Sustainable Livelihood is an attempt to go beyond the conventional definitions and approaches to poverty eradication. Livelihood development is defined as adequate and sustainable access to income and resources to meet basic needs. The livelihood pattern of the population throws a searching light on the economic and social life of the area. Livelihood approaches are a way of thinking about the objectives, scope and priorities for development. They place people and their priorities at the centre of development. They focus poverty reduction interventions on empowering the poor to build on their own opportunities, supporting their access to assets, and developing an enabling policy and institutional environment. One of the widely used and often quoted definition of the term 'sustainable livelihoods' was put forth by Robert Chambers and Gordon Conway. The verbatim definition is as follows: "A livelihood comprises the

capabilities, assets (stores, resources, claims and access), and activities required for means of living. A livelihood is 'sustainable' when it can cope with, and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities to the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term" (Chamber, R; Conway, G, 1992). Thus, livelihood strategies are the combination of activities that people choose to undertake in order to achieve their livelihood goals. These include productive activities, investment strategies and reproductive choices. Livelihood approaches try to understand the strategies pursued and the factors behind people's decisions to reinforce the positive aspects of these strategies and mitigate against constraints. The choice of strategies is a dynamic process in which people combine activities to meet their changing needs.

The central aim of enhancing economic productivity of India is to improve the overall welfare of majority of Indian households who are living below poverty line. Livelihood development lies at the very root of a society. The benefits of growth failed to trickle down to the poor who are often marginalized if not excluded from the mainstream of development process. Developing rural poor enhances the self-confidence, dignity and self-determination capacity of tribal people to eliminate the implicit and explicit socio-economic disadvantages and thereby provides a means to improve the effectiveness of development policy initiatives and programmes.

Agriculture is the primary source of income for the majority of the population of India. More than 76 percent of the rural population depend on agriculture and allied activities. Agriculture dominates the economy to such an extent that high proportion of working population of India is engaged in agriculture. Therefore, in such a country, agricultural development should form the foundation for national development. Agricultural modernization means from traditional agriculture to modern agriculture transformation process and means. In this process, the agriculture with modern industry, increasing in modern science and technology and modern economy management method, make up the agricultural productivity by backward traditional agriculture increasingly contemporary world advanced level of agriculture. We have seen that, since the mid-sixties, the traditional agricultural practices are gradually being replaced by modern technologies and farm practices in India and absolute revolution is taking place in our country. This marked the beginning of the new era of modernization of agriculture with increased emphasis on capital inputs. The introduction of modernization in farming, the extension of irrigation facilities and the revolutionary improvement in agricultural practices through the use of chemical fertilizer, HYV seeds etc., have resulted in widespread increase of production. While traditional agriculture relies heavily on indigenous inputs such as organic manures, seeds, simple ploughs and other primitive agricultural tools, bullocks etc., agricultural modernization thus involves the use of modern agrarian technology in the form of improved varieties of seeds, chemical fertilizer, pesticide, extensive irrigation and improved machineries has since long been introduced in the tribal and rural areas of West Bengal, primarily with a view to raise the level of income, standard of living and lifestyle of the rural and tribal people. It was also intended to raise the level of national income by increasing agricultural production. So, it is essential to provide the latest information regarding the agricultural modernization to sharpen their knowledge in terms of assets and activities required for a means of living, not only living but have been lead to formalization of the sustainable livelihood approach.

Tribal population constitutes a considerable percentage in our country. The tribal in our country are known as *Adivasis* in the ordinary usage of the term. In general, it is applied to the people, who are considered primitive and who live

in backward areas and do not know the use of writing. Tribe, in the dictionary of Anthropology, is defined as “a social group, usually with a definite area, dialect, cultural homogeneity, and unifying social organization. It may include several sub groups, such as sibs or villages. A tribe ordinarily has a leader and may have a common ancestor, as well as patron deity. The families or small communities making up the tribe are linked through economic, social, religious, family or blood ties.” The tribal have specific characteristics which make them a society based upon kinship, where social stratification is absent (Beteille, 1977). The tribal communities differ very much from one another in social traits, organization, kinship pattern, custom and beliefs. Broadly, tribe is an aggregate of people sharing social values, common dialect, territory and culture. Tribal are observed to be away from the modern civilization and remain in natural surroundings and in small, sometimes autonomous communities. However, with the process of extension of infrastructural facilities such as education, health, banking, transport and communication, the isolation of these people is gradually breaking and their contact with the outside world is expanding. The largest concentration of tribal people anywhere in the world, except perhaps Africa, is in India. There are about 250 tribal communities in India. Agriculture is the primary source of livelihood for the overwhelming majority of the tribal population in the country. The setting of problem of agricultural development in the context of agrarian transformation, has added importance concerning the tribal, because the role of both land and forest claimed high place in recovery of the tribal economy hitherto. May be that both these economic sectors shared the overall responsibilities to provide subsistence economy to the tribal people on the sustainable base, because of primitive technology of production operative in farming practices mainly followed by the tribal farmers as direct technology of extensive cultivation. Agriculture based tribal economy is now a more important sector to break through the subsistence level of the down-trodden tribal people after the nationalization of forest, in the early fifties. Although not all the classes of the tribal are seeking their livelihood from settled cultivation as quite a large number of nomadic tribes are almost on the wheel of their bullock carts or on the back of their domestic animals and are on their move from one place to another as vagrant group of nomads. Therefore, they earn their livelihood by roaming from one place to another.

The economy of the tribal is primarily rural and agriculture based and allied activities constitute their bastion. Agricultural modernization has since long been introduced in the tribal areas of West Bengal, primarily with a view to raise the level of income, standard of living and lifestyle of the tribal people. The Santal is one of the largest tribal communities in India and also in West Bengal. The Santal of West Bengal is broadly known as an agriculturist tribe. In agrarian sector, the Santals are mainly marginal and small farmers and cultivate for their own consumption without hankering after profit. Very few among them practice commercial agriculture and others are involved as landless agricultural labourer or day labourer. Their involvement with the modes of production as well as production relations, also with their distribution and consumption patterns is somewhat different from other sections of Indian population. Some of the Santal families have adopted modern agricultural technology in the form of using shallow tube wells, chemical fertilizers, high yielding varieties of seeds, power tillers, tractors and so on. But this innovation can be found in a patch of Santal areas having tiny lands. Greater portion of Santal agriculture is, however, still to achieve the spectrum of modernization. But somehow, the Santals are getting the benefit of agricultural modernization one way or other. From this point of view, in the present study, attempts have been made to know the extent and nature of socio- economic changes among the Santals due to agricultural modernization. Attempt has also been made to grasp the nature of the tribal's outlook on life in the changing context.

Government Efforts for Tribal Development

Since independence, considering the general socio-economic backwardness of the tribal communities, the Government of India has been planning and launching programmes to develop and integrate them with the mainstream of Indian national life. To sustain the Constitutional safeguards given to them, Government adopted so many programmes through the Plan periods. The Fifth Five Year Plan is considered as the turning point in the history of tribal development in the post independent India for the launching of Tribal Sub Plans. Tribal Sub Plans have been in operation in 22 states and two Union Territories, i.e., in all states except the tribal majority states of Arunachal Pradesh, Meghalaya, Mizoram and Nagaland and in the Union Territories of Lakshadweep and Dadra and Nagar Haveli. Initially it was an area development programme. But in the subsequent plan periods it was becoming a target group approach where individual family was to be benefited specifically from the programme to build up their economic base. The objective of assisting the targeted number of tribal families is to cross the poverty line and to increase the access to health, education and employment opportunities and thereby to improve their quality of life.

In the course of tribal development approaches in the post independent India, the Fifth Five Year Plan may be mentioned as the turning point for the launching of Integrated Tribal Development Programme (ITDP). ITDP was launched in the year 1972. The main aim of ITDP is to bring the fruits of development to tribal areas. During the Sixth plan, emphasis was placed more on family oriented programmes than on infrastructure development. Thus, from the Sixth Plan period it was becoming a target group approach where individual families were to benefit specially from the programme. During the Seventh plan, Tribal Development with ITDP pattern was continued without any basic changes in the approach, pattern or structure. In this plan period thirty lakhs tribal families were assisted to build up their economic base. The Eighth Five Year Plan gave emphasis on development of essential infrastructure facilities to achieve the objective of assisting the targeted number of tribal families to cross the poverty line and to increase their access to health, education and employment opportunities. These families were selected on the basis of their absolute economic status, the poorest being given the first preference.

In West Bengal, ITDP was introduced in the year 1983. A good number of tribal populations are under these schemes. Various kinds of schemes have been introduced for them. Some of the schemes are meant for agriculture; some are employment and income generating schemes. From the field investigation, it was noticed that some beneficiaries are conducting the schemes successfully and in some cases schemes have been failed. However, there remain some factors for non-feasibility of the loans.

From the very beginning of the tribal development, it was realized that no development activity could be of benefit to the tribal population unless their exploitation was prevented and an integrated credit cum marketing services was developed in the sub-plan areas. Hence elimination of exploitation was given priority in objectives of Tribal Sub Plan. Priority was also given to do away with middlemen and the moneylenders. But elimination of exploitation has limited success. In spite of financial assistance through ITDP loans, private sources are also being used by the tribal people side by side. Private sources are still standing between the development agencies and the beneficiaries as an alternative.

Changes in Sources of Credit Needs

Though the tribal are getting benefit from institutional sources of Integrated Tribal Development Programme,

most of the beneficiaries are taking loans from different informal sources. They used to borrow money from the private moneylenders, local assemblers (aratdar), and the landowners. Among them, the tenant cultivators are most numerous, followed by the agricultural labourers. Here, in most of the cases the landowners are the neighbouring Caste Hindu people, in whose land the landless tribal are working as agricultural labourers round the year, sometimes generation after generation, the share croppers sharing lands with them and at the rest of the time working as agricultural labourers on their land. On the other hand, some take loans from their friends or relatives. Some borrow money from other sources, like the owner of Shaw Mill, Rice Mill, Brick Kiln etc. where they work as labourers. So, in spite of having the benefit of getting loans from the government sources, the tribal take loans from various informal sources. The main reason behind it is that the government do not provide loan for consumption purposes, which is very much needed for their daily survival. On the other hand, the loan from non-institutional sources is easily available without any formalities.

Despite having a wide network of rural banks in the country and implementation of credit linked poverty alleviation programmes, a large number of rural poor specifically the tribal who constitute a significant number, continue to remain outside the fold of formal banking system. Various studies suggested that the existing policies, systems and procedures often did not meet the needs of the hard-core and asset less poor.

The extension and development departments are fast realizing the significance of providing financial services to the poor, providing opportunity to save and access credit. Credit, if appropriately delivered, is attractive to the poor, financially viable and self sustainable. Extension departments and NGOs also realize the limitations of formal banks and the strengths of informal money lending, which unfortunately is exploitative. Hence, efforts have been made to learn from banks and the moneylenders, and create alternative models for credit delivery; which are simple, efficient, non-exploitative, financially sustainable and self-managed. Accordingly, the idea of self-help group has been developed. The experience in developing countries shows that provision of small credit to the poor through the linkage process has contributed to the process of rural development by creating conditions that are conducive to human development. It is reported that significant changes in the living standards of SHG members have taken place in terms of increase in income levels, assets, savings, borrowing capacity and income generating activities. Moreover, the participation of the tribal in the economic activities and decision making at the society level is increasing and is making the rural development process participatory, domestic and sustainable.

Changes in Indigenous to Modern Trends in Agriculture

Agriculture is the main source of income for the majority of the Santals. Earlier, they used to practice traditional method for agriculture and their technology was indigenous. But now, they are adopting modern technologies like shallow tube-wells, pump sets, power tillers, threshers, sprayers, and so on. They are also using HYV seeds, chemical fertilizers, pesticides etc. to achieve better yield. For irrigating their lands, earlier they were entirely dependent on monsoon rainfall and thus only one crop (monocrop) was cultivated. But the introduction of pump-sets and shallow tube-wells has brought changes in their modes of production. Now, they are cultivating double crops sometimes triple crops. Those farmers who do not have pump sets or shallow tube-wells, they hire it from the other sources for irrigation purposes and get the benefit. Thereby, the irrigation facility is gradually increasing. Land tilling and threshing is also being done in the mechanized way by most of the Santals now. Earlier those were done by bullock power and manual labour. A substantial percentage of households have threshers and sprayers. On the other hand, all the Santal households are now using high yielding variety

of seeds, chemical fertilizers, pesticides etc. to increase their yield. There have occurred many changes in the aspects of their social organizations and cultural activities. A spartan glance can be given to get nature of changes taken place among the Santals due to the adoption of agricultural modernization. The cultivation of Santals was normally subsistence in nature. Now, this tendency is decreasing. Commercial nature of farming has been gradually taking place among the mechanized farmers. The market orientation is also increasing among the Santals.

Changes in Income and Employment Generations

Income, employment and wealth generation is taking place among the Santal mechanized farmers. In the existing cropping pattern, the return over variable cost per acre (ROVC/acre) is high, so the income is increasing. Due to the modernization in agriculture, the cropping intensity is increasing and the farmers are engaged in cultivation round the year and get a substantial income from the occupation. Due to increase in income, the Santals are obtaining a substantial amount of wealth, which was negligible earlier. For the cultivation purpose, before the mechanization, they mostly used family labour. Hired labour was very few and the payment was in kind or in exchange. But, now, due to the mechanization in agriculture, hiring in labour is gradually increasing and mode of payment is in cash not in kind. Family labour in agriculture has been steadily replaced by hired labourers among the mechanized tribal and occupational diversification is taking place more and more. The entry of agricultural modernization, education, better transport facilities and communication enabled the villages to develop certain skills. The Santals have definitely developed some skills which enabled them to give up their old work of hunting, gathering and cutting of wood. The skills which they have acquired are now being used for any development purposes.

Income distribution is crucial in the sense that this would give an overall idea of the level of living. Most of the mechanized farmers are marginal and small farmers. Very few percentages of households have large quantity of land. It has been found that the higher land holding households have higher average incomes. On the other hand, due to the mechanization in agriculture, the average income is higher among the mechanized households. Due to the higher annual income, the standard of living is better among them.

Changes in Education

The tribal people were very conservative in assessing the relevance of present education in life. They experienced that those who got education at the school turned out to be useless. After completing education they did not do any manual work, though the schools increasingly provide facilities to the tribal people. Having enjoyed the facilities, when a Santal turned home after completing his school education, he found himself completely alienated from his own village, his clan and his kin. He had little inclination to work in the field and to perform manual work. To a Santal, education, thus, became irrelevant. Relevance of school education for a Santal arises only when they are assured in entering into the government services. It is only from then he would allow his son to continue his education. The use of education as he understands today is for government employment only. They feel that the reservation in services is sufficient to get employment if one is just educated.

The Santals, despite their dismal views on education, have accepted schooling for their children. It is due to the hope that if educated they would get some opportunities of service as government reservation policy is there. The tribal mechanized farmers are getting the benefit of the government policy and the advantage of education more. The literacy and

level of higher education is highest among the mechanized farmers even among the tribal women. The illiteracy is highest among the landless category of people. It has been found that the tendency towards higher education is increasing. Most of the old members of the tribal community are illiterate. But due to the effect of agricultural modernization, they are now coming forward. They are trying to give education to their children. Now they are aware about the government reservation policy and they think that if their children get education then they can get government services and be better off in the larger society.

Changes in Expenditure Pattern

Expenditure pattern is the most important indicator to understand the level of living. Earlier, the Santals used to expend most of their incomes for food. But due to the increase in income and awareness, they are now spending money for other durable consumer goods, education, health care etc. Savings tendency has also been developed. Food is the basic necessity of all living beings, and consists of several components. It has been observed that with an increase in income, the amount of money spent is proportionately lesser on grains, and more on oils and fats, vegetables, meat, fish and eggs. They are also spending the money for recreation purposes. After the satisfaction of demand for food, the mechanized farmers make efforts to fulfil the needs of clothing and housing. Other necessities like health, education, travel, fuel, ceremony etc. come later. Some percentage of money is spent for luxury goods. The Santals are habituated in liquor. But after mechanization and increase of income the expenditure on intoxicants like liquor is gradually decreasing. The mechanized farmers are not only expending the money for consumption purposes but also expending some percentage of their income for education, health purposes and even for some other income generating activities, which is the most remarkable change. The conspicuous consumption expenditure is increasing with income augmentation among the mechanized farmers.

Changes in House Types

The tribal people used to live in forests or river banks. Their housing conditions are normally not good, made by mud with thatched roof. Now, the housing condition is developing, as they are getting more production from agriculture. There are three types of houses found in the tribal villages - kunchha, pucca and mixed. The kunchha structure usually has mud walls, kunchha floor with mud plaster and the roof thatched with straw. The next stage of improvement in the structure is the replacement of thatch on the roof by corrugated iron sheets, cement flooring and the walls are made of bricks. These houses are mixed type. And finally the pucca houses are those which are made of brick, cement and masonry.

All most all the non-mechanized and landless farmers live in kunchha houses. Among the mechanized farmers, many houses are mixed and a few percentages are living in pucca houses. So, due to the agricultural mechanization and improvement of agriculture among the tribal farmers, the housing condition is improving now.

Changes in Family Structure

Structurally, the Santal family is different from the regional family of the caste Hindus. The Santal, like other Mundari groups of tribes in India, is characterized by a segmentary social system based on kin groups - lineages and clans. Though the traditional nature of their segmentary social system has been attenuated to a great extent, the idiom of groups based on kinship is still of paramount importance for a proper understanding of the social structure of the Santal. Among the Santals, families formed of the marital union of a man and a woman and the children born of them constitute their

primary kin group lineages, in term of their genealogical connection to a common ancestor. The lineage groups are again merged into still larger kin groups based on common descent. These descent groups locally termed as *paris*, together forms the society of the Santal.

Both types of families namely joint and nuclear have been found among the tribal people. Nuclear family is based on monogamy i.e. marriage of one man with one woman. The married couple together with their children forms a nuclear family. On the other hand, when several individuals through the father's or the mother's line live together with their respective wives and children, they form joint family. The joint family must have a common head, common kitchen and share of common residence. Among the Santals, it has been found that the percentage of nuclear family is higher than the joint family. In the Santal community, when a grown up son marries, he separates from his parents and establishes his new family. The separation is complete when the son and the father do not work on the common farm; a separate piece of land is allotted to the son for his maintenance on which he alone operates. Nuclearisation or individualization is increasing slowly but steadily. Family structure is gradually diversified to nuclear one and attachment to the family is diminishing.

Changes in Health and Hygiene

Now-a-days the general health condition of the Santals is far better than before. Earlier they suffered from malnutrition and always were depended on indigenous medicine or *ojhas*. The sense of personal hygiene among the Santals is very poor. Malnutrition and uncleanly habits have made the Santals victims of several diseases. Main complaint is about their anaemic condition. During the rainy season, they generally suffer from ulcers, eye-ache and stomach-ache. Malaria is also common during this season. Both male and female suffer from these diseases. The only remedy they seek is from the tribal quacks or *ojhas*.

Now, among the Santals the awareness regarding health and hygiene is increasing. Due to the modernization in agriculture, their income has increased and they are consuming better foods. They are going to hospital for treatment and some percentages of money are spending for medical care. They are also keeping their health clean. Most of the mechanized households have separate kitchen and separate cattle shed facilities. A good number of households also have latrine. These facts show the increase in awareness among the tribal regarding health and hygiene and their stepping towards a better living as a community.

Changes in Cosmo Politeness

Earlier the Santals were a non-political entity. They lived in the hills and forests of the region and hardly had any contacts with the princely rulers. The Santals have a long tradition of managing their village affairs through traditional panchayats. In olden days, the traditional panchayats were the only means through which disputes were settled and justice dispensed in the tribal areas. Since 1949 Gram Panchayats are being established in the rural and tribal areas through government efforts. Sometimes there is a jurisdiction between the traditional panchayats and the newly established Government panchayats. Very few Santals take their cases for decision to the government panchayat.

Another institution which exercised some power was that of some well to do Santal families of the village. Though there is less of stratification in the traditional tribal society, still there are some families which enjoy higher prestige owing to larger number of cattle and higher size of land holdings. Such families are known for providing resources of employment and money lending. Anytime they could stand as sureties for the late payment of land revenue or loan.

Crisis situation could be met adequately with the help of these dominant families in the village. They also take part to solve the disputes.

Since independence and promulgation of the constitution, the Santals have assumed a new status. They are supposed to participate in the national political system not only as ordinary citizens but bestowed with some special privileges and discriminations. The Constitution provides them such privileges with the idea that their involvement and participation in the political system would bring them closer to the core of national life. The Constitution envisages that the political and economic forces released by the national structures would in the end bring the tribal people in the mainstream of national life.

Now, the situation has changed. The Government Panchayats have entered into the social organization of the Santals. They are now going to Gram Panchayat to settle down their conflicts. Sometimes they allow the police to come to solve their conflicts. Not only that, they also take part actively in the Gram Panchayat elections. Women are also taking part in the process. The Santals are also participating in development programmes and decision making processes. Cosmo politeness has also increased. The extent of the contact with different extension personnel of the mechanized farmers has increased a lot. Though they have their own traditional panchayat, but all the households of mechanized farmers are contacting with the village Pradhan and the Panchayat members. Few percentages also meet with the Agriculture Development Officer, Block Development Officer or higher government officials. All the mechanized farmers meet with the fellow caste Hindu progressive farmers and other institutions and take suggestions for the betterment of their production. From the above facts, it can be implicit that political awareness and Cosmo politeness are increasing with the increase of agricultural modernization.

Changes in Indigenous Santal Rituals and in Agro Ecosystem

The Santals are ritually intricate with their agro ecosystem. The different phases of agriculture and other allied activities of the Santals are always accompanied by some rituals and ceremonies that are held communally in the village. The Santals perform rituals and ceremonies at first in each case communally and then the households of the village are permitted to perpetuate their independent productive activities. This kind of ritual sanction, in fact, acts as a moral force in binding the households of the village into a corporate productive organization and stands in the way of complete nuclearization or individualization of the family households, their primary productive units. A number of social festivals and the accompanying communal worship are directly linked to agricultural production. All the festivals of the Santals are partly 'vegetation' ceremony and partly 'fecundity' ceremony. The invocations are reminiscent of Vedic prayers for plenty and peace. But there is always the feeling that much is left to the operation of the goodwill of the gods and *Bongas*. After all they will finally determine the quality of the harvest and nothing that they can do will really change the picture. The Santal's belief is that if the *Bongas* are not properly worshipped or they are not pleased, or if for some reason they incite their wrath then there will be poor crop or even large scale failure of crop. Many cultivators in the Santal villages exhibit lazy and complacent attitude, which hinder their good crop. But now, the Santals are learning slowly from non-tribals, who are good cultivators and who do not care much for extra-rational forces of *Bongas* or gods and goddesses.

It is evident that the modernization of agriculture which demands timely intercultural operations sometimes comes into conflict with the ritualistic basis of agriculture. Here, technology and ritual must mix creating a new system of ritual flexible and liberal enough to absorb the demands of a new technology or conversely re-structure the ritual. There has to be

greater adaptability not only in the timing of the festivals but also as to the authority or agency who can decide on the date of different festivals. Some form of alternative arrangement for taking decisions when the proper incumbent is absent or ill, could be devised. This, no doubt, is linked to the problem of erosion of authority of the traditional religious and social leader of the village. Because deciding the dates of festivals is his prerogative and if somebody else does it, that itself would naturally mean some reduction in his social status or ritual standing. The community responsibility binds the individual and no individual cultivator, even when he resents the evil effects of non-celebration of a festival in time, is prepared to rise in revolt and declare his autonomy to decide when he will enter the field to sow or weed or do any other operation. Although the Santal's belief that good crops are the result of proper appeasement of the gods and goddesses and bad crops or crop failure are due to their wrath is deeply entrenched in the social system and personality. But this proclivity sometimes delayed the production process and thus hinders a good harvest. The rationalistic approach to the subject – the need for proper ploughing, proper inputs, seeds, fertilizer, application of pesticides in time, proper and timely irrigation etc. are slowly coming in but a sense of their urgency and immediate relevance are diluted by these extra rational factors. However, the production process and Santal rituals are interwoven with each other which bind their socio-economic life cycle and their agro ecosystem.

Earlier, only single crop was cultivated depending on the desire of *Bongas*. But after the adoption of agricultural modernization the tendency on depending on gods and goddesses is gradually decreasing. Now, the Santal farmers go for double even triple cropping like the non-tribal. Sometimes it is not possible for them to conduct all the rituals. Not only that the educated Santals and youths do not know the names of all the ceremonies or rituals of their own community. According to them, if they follow all the rituals, then modernization in agricultural is not possible. Now the Santal youths are also interested with the festivals of non-santals. They participate in *Durga puja*, *Kali puja*, *Laxmi puja*, *Nabanna* and so on. They also perform *Sarawasti puja* in the villages for the development in education. So, traditional religious involvement is now at a stake.

CONCLUSIONS

The Santal, thus, is an agriculturist tribe having an essential articulation with Hindu caste-peasants and market economy of the larger society. In the course of their contact with the larger society and due to the adoption of modern agricultural technology, there have occurred many changes in the aspects of their social organization and cultural activities. It may be admitted that some of the social and cultural changes observed among the santals are due to changes in the economic and political life of the people in general. Agricultural modernization has its impact in bringing about economic, social and cultural changes. It has, however, been found that despite their essential articulation with the larger society and the changes there from, the Santals are found to live in a world of dynamic isolation and continue a distinct socio-cultural identity of their own.

REFERENCES

1. Ambasht, N.K., “*Impact of education on tribal cultures*”, ‘Indian science Congress, New Delhi.
2. Bapat, N.V, (1994), “*A few thoughts on Tribal Education*”, Vanyajathi Journal.
3. Beteille, Andre, (1977), “The Definition of Tribe”, in Ramesh Thapar (ed.) *Tribe, Caste and Religion in India*. Delhi: MacMillan Company of India Limited.

4. Bhaduri, A. (1983). *The Economic Structure of Backward Agriculture*. London: Academic Press Inc. Ltd.
5. Chakarvarty, B. (2008), "Traditional and Modern Health care Services in Tribal Areas: Problems of Accessibility, Affordability and Acceptability", *Kurukshetra*, January, 2008.
6. Chambers Robert and Conway Gordon, (1992), *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*, IDS Discussion Paper, Sussex, U.K.
7. Chaudhari,(1992), "*Socio-Economic and Educational development*", India Publications, New Delhi.
9. Chelliah, R. J., (1999), *Income-Poverty and Beyond, Human Development in India*, in Raja J. Chellaiah and R. Sudarshan (ed.), New Delhi: N. D. Publishers, Social Science Press.
10. Dube, S. C. (1977), "Tribal Heritage of India", Vikas Publications, New Delhi.
11. Haimendorf, (1990), The problems of Tribal education, *Tribes of India, the struggle for survival*, Oxford University Press, Walton street, Oxford.
12. Jain P.C., (2001), *Globalisation of Tribal Sustainable development*, Rawat Publications, New Delhi.
13. Pandey, G.S. (1998), "Environment and Development" in *Tribal Development: Options* (ed.), Samal, P.K. Gyanodaya Prakashan, Nainital.
14. Paul, Sujit Kumar, (2005), *Tribal Agriculture and Modernization*, Daya Publishing House, New Delhi.
15. Raha,M.K,(ed.),(1989), *Introduction in Tribal India(vol-1)*, Gian Publishing House,Delhi.
16. Rao, Vasudeva B.S., (2005), *Tribal Development Studies*, Associated Publishers, Delhi.
17. Robin.D.Tribhuvan Karen Sherry, (2004), *Health, Medicine, and Nutrition of the Tribals*, Rawat Publications, Jaipur and New Delhi.
18. Singh, S.K. and Singh, A. K. (2006), "Sustainable Development and Tribal women", in *Land and Forest Rights of the Tribals Today* (ed.) Sarkar, R.M., Serials Publications, New Delhi.
19. Srivastava, L. R. N, (1996), "*The problem of integration of the tribal people*", "The Indian journal of Social work",Kurukshetra.
20. Sumit Chakravarty, GopalShukla and Suresh, (2007), "Tribal Welfare and Development in India: Past, Present and Strategies with Special Reference to Agriculture and Forestry", *Kurukshetra*, November.
21. Tripathy .S. N.,(2004),(Ed),*Glimpses on Tribal Development*, Discovery Publishing House, New Delhi.
22. Verma M.M., (1996), *Tribal Development in India*, Mittal Publications, New Delhi.
23. Vijaya Shankar Upadhyaya and Gaya Pandey,(2003),*Tribal Development in India (Critical Appraisal)*,Crown Publications, Ranchi, New Delhi.
24. Waghmare, S. K. and Choudhary, N.V. (1989), *Tribal Women in Agriculture*, Metropolitan, New Delhi.

