This study was undertaken with the prime objective of presenting a comprehensive picture of the rhythm and pattern of shifting cultivation and their influence on various aspects of Pauri Bhuyan life, not withstanding the ecological implications generally perceived by the agriculturalists, ecologists, economists, soil scientists, etc., as a 'wasteful', 'evil' practice. Keeping this in view, major findings of the study on the Pauri Bhuyan are summarised and compared with the situation prevailing among some other communities practising elsewhere.

I

The Pauri Bhuyan is the most primitive section of a numerically major tribe in Orissa. They claim themselves to be the first settlers of the area named after them as Bhuyanpirh located in the Sadar Sub-division of Keonjhar district. Their counterparts are also found in the adjoining Bonai area of Sundargarh district, Barkote area of Sambalpur district and Pal-Lahara area of Dhenkanal district. In this compact area a large number of villages with homogeneous Pauri Bhuyan population were found in the past. Now some of these villages have mixed population belonging to several communities who have infiltrated into the Pauri land from time to time. Most of the Pauri Bhuyan villages, in the inaccessible hill ranges, shifting cultivation is the principal source of livelihood,
supplemented by such other pursuits as forestry, plain and wet land cultivation, livestock rearing, hunting, fishing and wage-earning. There are also a number of rehabilitation colonies established by the Government. Some villages are located close to the road. Some others are in the vicinity of iron ore mines. Shifting cultivation is practised occasionally in these villages whenever one gets an opportunity.

Following the classification of swidden cultivators made by Mahapatra (1979) on the basis of degree of dependence, the Pauri Bhuyan of Keonjhar may be grouped under two categories, i.e., Major dependent communities and Marginally dependent-individuals. The study village, Sankarai comes under the first category and Bayakumutua village under the second category. In the former, almost all households were found practise shifting cultivation as the dominant mode of livelihood around which other pursuits like forestry, plain and wet land cultivation, livestock rearing, hunting, fishing and occasionally non-agriculture wage earning revolve. Here swiddens covered with vegetation favoured with medium rainfall and medium temperature are still available with very little external interference. But in Bayakumutua village, because of loss of forest coverage, infiltration of outsiders and restriction imposed by the Government by declaring some areas as reserved forest and some other areas covering with Governmental plantations, only five households, left with no other option, were found depending on shifting cultivation using the forest of a neighbouring village. The majority depend on plain and wet land cultivation, forest collection and wage-earning.

3. Note-III,
Shifting cultivation is practised in the hilly terrain, where climatic conditions such as medium rainfall, medium temperature, soil type are favourable for quick growth of plants. In the absence of suitable land for settled cultivation on one hand and availability of areas covered with quick growing vegetation, a number of communities in different regions found shifting cultivation as most suitable to local conditions. In course of time this has become a deep rooted habit with many. Several communities still cling to it even though land is in short supply. In such a situation the 'fallow period' and 'jhum cycle' get reduced as seen among the swiddeners in Mizoram and Tripura (Bose and others, 1982:220).

In addition to ecology there are also other determining factors which influence its continuance. These include alienation of wet land as happened among the Reang tribals of Tripura and the Kandha of Orissa and adverse effects of stricter enforcement of forest rules as in case of the Soliga of Karnataka (Morab, 1977).

Our study has revealed that the Pauri Bhuyan have not restored to shifting cultivation forced either by Government policy or loss of land due to alienation. The Pauri Bhuyan still claim themselves to be the original settlers and matisar meaning "owners of the soil". This claim was never challenged. The local administration recognized this right and allowed the community to make use of the natural environment in any manner it liked.
Thus, they were never compelled by outsider and land grabers to take up shifting cultivation. On the contrary, shifting cultivation among them is motivated by orthogenetic myths and divine sanctions. It is believed that their first progenitors were directed by the Creator Himself to eke-out a living from shifting cultivation.

IV

Practice of shifting cultivation is linked with cultural values and religious beliefs and practices. They regard the land as the 'Mother-Goddess' (Basuki), a belief we notice among several other communities like the Baiga, the Koya and the Kandha. They consider 'Paddy' not only as the main crop and the staple food but also as a sacred object used in rituals and in magico-religious practices. Thus rice is a symbolically associated with their community life. They believe that a number of supernatural beings preside over the land and the forest. In consonance with their belief system, a series of rituals, magical performances and a number of taboos form an essential component of the process of shifting cultivation. Before a major operation is initiated, a ritual for seeking blessings and protection of the supernatural powers is performed by the village as a whole. Such association of shifting cultivation with religious beliefs and practices are also seen among their Juang neighbour (Rout: 1969-70). The Koya (Tyler: 1974) and the Khandh of Orissa (Patnaik and others: 1982), the Soliga of Karnataka (Morab: 1977) and the Maler of Bihar (Vidyarthi: 1963) have also similar beliefs.
Shifting cultivation is a way of life. Individuals, irrespective of gender are initiated into it at an early age as a part of traditional social process and helped to acquire the skill and techniques of shifting cultivation through participation. Children in the age-group of 9 to 10 years accompany their parents to the swidden to learn various operations by imitation and through occasional instructions from the elders. As members of their respective youth associations the young work in a group to cultivate patches and contribute labour to the needy households on contract basis (Kutia) for a fixed honorarium. An individual of either sex has to acquire expertise in the process of shifting cultivation. One should also be familiar with various taboos and restrictions; should be able to shoulder responsibility to become a fullfledged member of the society and must be capable of establishing a separate household soon after marriage; and should have acquired the needed expertise to undertake shifting cultivation as the dominant mode of livelihood. Thus an individual, throughout his life time, is very actively associated with the practice of shifting cultivation which becomes a powerful factor in moulding the behaviour pattern of the individual in society.

VI

Shifting cultivation is primarily a labour intensive pursuit with division of labour based on age and gender and at the same time a collective, more or less a cooperative system in which members of various units of social organization starting from the family, minor lineage group to village have to participate individually as well as collectively; and cooperate
with each other at various operational stages.

The family structure among the Pauri Bhuyan is mostly nuclear and is small in size. With individual ownership of house and housestead land and usufruct right over swidden going hand in hand, the family acts as the basic socio-economic unit. It shoulders the entire responsibility of cultivation in the patches allotted to it and should remain in readiness to help the close kinsmen and neighbours, village officials, etc., whenever called for on nominal wage or no wage or on labour exchange. All members of a household form an effective production unit by participating ungrudgingly in all sorts of distinctive duties traditionally earmarked for each.

Beyond the family, there is the next higher social group called Kutumba equated with minimal lineage, constituting an important functional unit in different spheres of socio-economic life including shifting cultivation. Members of such groups select adjacent plots and exchange labour and cooperate with each other at the time of guarding. The widows or widowers are helped to see them through the cultivation cycle. Besides these close agnatic groups, cooperation and help from the cognatic relatives living in the neighbouring villages also come. Families of married daughters and married sisters pay visit to help in shifting cultivation whenever exigencies arise.

VII

In shifting cultivation, the entire village acts as a single production unit. All decisions relating to it are taken
in the meeting of the village elders presided over by the village functionaries like the Pradhan, Dehur and the ward member. The village Darbar, an open space in front of the defunct bachelor's dormitory, is the place where almost all formal and informal meetings of the village elders and all community celebrations are held.

The role of the village leaders is still considered essential and inseparable from the process of shifting cultivation. As mentioned earlier the traditional secular headman and the ward members of the statutory Gram Panchayat, in collaboration with the traditional village priest and with the approval of village elders, take decisions associated with the practice of shifting cultivation. Those who do not act in accordance with the decisions and those who violate the taboos and do not honour traditional values and norms linked with shifting cultivation, are not tolerated. The village priest being the spiritual and the ritual head of the village, is the chief functionary to fix the dates of celebration of community rituals which precede various major operations of shifting cultivation and also to officiate in the rituals on behalf of the villagers. He is to initiate tree felling, firing, sowing and harvesting in the swidden. In recognition of their special duties and responsibilities the secular and the religious headmen including the ward member, enjoy certain privileges in the selection of their patches and receive voluntary labour contributions from each household for one day at the time of its cultivation.

Thus, shifting cultivation is integrated and intertwined with the political, religious and the social system. It is more a social activity than an economic pursuit. It ensures unity,
collective outlook and cohesiveness of various units of social organizations like the family, Kutumba and the village. The institutions, like the associations of the unmarried youth and the village political organization personify loyalty and emotional attachment. This is particularly evident among the members at the time of actual operations in the swiddens. In the practice of shifting cultivation certain democratic principles are followed. Every individual has a right to equal opportunity to practise shifting cultivation and everybody does his/her work following the principles of any business is everybody's business.

VIII

Shifting cultivation is the prime determinant of the economic condition of the Pauri Bhuyan. It is a type of agricultural system for which usufructory land owned by the village is freely available depending upon the need and capacity of the household. The village ownership of swidden land is also noticed among the Juang of Orissa (Rout: 69-70) and several communities in North-east India. Among the Pauri Bhuyan (Patnaik and Others: 1979-80) the village chiefs do not have any extraordinary right over the land unlike among the Kuki and Mizo group of tribes (Saikia: 1982). The ownership of swidden is found vested in the lineage groups of such tribal groups like the Lanjia Saora of Orissa (Patnaik: 1992) and the Garo of Meghalaya (Saikia: 1982). Among the Angami swiddens are individual property (Sachchidananda: 1989), which are inherited and can be sold or mortgaged.

IX

Shifting cultivation, as noted earlier, continues to be
a major pursuit in the village Sankarai. It provides full time employment to almost all workers within the village. The Pauri Bhuyan living in the other village who have been forced to stop shifting cultivation now find it difficult to get full time employment. In these villages population within the age-group of 9 to 18 years and all adult females remain under-employed.

X

Shifting cultivation is economically more viable to the Pauri Bhuyan, because of low capital investment for seeds, manures, implements and techniques employed in production. Apart from land and labour which are easily available they use traditional seeds which they preserve from the time of harvest or obtain them from their neighbours mostly on exchange. The jhum fields are not manured excepting spreading of ashes obtained from firing of felled material. Implements used are very simple. The most distinctive practice that we have come across among them, is the use of draught animals like cows and bullocks for ploughing the swidden. Techniques of cultivation are acquired through active participation by an individual since early age. Total absence of paid wage-system is another peculiarity since extraneous labour is obtained through exchange or on payment of very little wage or no wage. Communal ownership of swidden, however, does not encourage the individual cultivator to improve it for better yield.

XI

Shifting cultivation is a system intertwined with hard and arduous labour coupled with risk to human life brought by
wild life. It is not a lazy and lethargic process as alleged by some observers. Both men and women walk several kilometers every day, work in hot summer, windy rainy season and rigorous winter in the high hills infested with wild animals and poisonous reptiles. Among the Pauri Bhuyan, shifting cultivation is a collective venture. All participants are expected to carry on the required operations as per the calendar collectively fixed. In such a situation, promptness, not laziness of an individual, is the likely watch word.

XII

In shifting cultivation, the Pauri Bhuyan follow a defined cropping pattern. Different crops are grown separately in specific part of the same patch in different years of cultivation. As is the practice in many other areas, the Pauri Bhuyan do not mix up different crops. These crops are not only traditional but also popular among them since they themselves consume most of these. Use of improved seeds, and chemical fertilizers and pesticide and the modern techniques of cultivation have not yet found their way into the shifting cultivation fields of the Pauri Bhuyan.

XII

Shifting cultivation from the Pauri Bhuyan point of view is not uneconomical. Apart from the damage of valuable forests, acreage yield from it is invariably calculated as lower than that of the wet cultivation. But swidden cultivation does not only provide the crops overtly produced but also bring
in a number of other items of essential use without involving extra labour. Collection of such items goes on simultaneously with swidden cultivation. When these are taken together the multiple benefits received by the shifting cultivator do not seem to be uneconomical.

XIV

Shifting cultivation is a subsistence economy among the Pauri Bhuyan, providing the community a variety of food crops one after another within a period of 5 to 6 months. Almost all these food crops are mostly consumed at home and the surplus, if any, is either sold or bartered. Niger is the only crop grown in swidden that is totally disposed off by sale or by exchange for paddy grains. Some of the service personnel like the Blacksmith, the potter, milkman and basket maker are paid in kind. Some items of produce from swidden are exchanged for things of daily necessity. Thus, shifting cultivation is obviously less marketable. Swidden cultivation is the main source of food and nutrition that helps to maintain a balanced diet (Table-IV:5).

XV

Shifting cultivation is not only the major source of income to many households in the village Sankarai, but also provides ample scope for earning extra income by making bigger clearings when necessity arises for more funds to meet the expenses of a costly ritual like a son's marriage or payment of an old debt. It is also used as a source of building a common fund for the village. The unmarried youths too
raise a common fund for their activities through shifting cultivation. Produce from the clearings cultivated collectively by the households and by the unmarried youths go to their respective common funds. Shifting cultivation is never a competitive undertaking. Nobody likes to make bigger clearings for accumulation of wealth. Further, it provides security at the time of food crisis caused by failure of crops in the plain and wet land due to drought or flood. In swidden cultivation, total crop failure does not occur, because a large variety of crops grown are harvested one after another within a period of 4 to 5 months.

XVI

Notwithstanding the disadvantageous effects of shifting cultivation, the present study has revealed.

1) that the process among the Pauri Bhuyan of Keonjhar district is motivated by divine sanctions and was adopted as the means of survival from time immemorial;

2) that it is a spontaneous response to the topography and climatic conditions of the habitat;

3) that it continues till today in inaccessible pockets;

4) that at present the resting period is reduced to 7 to 8 years instead of 12 to 15 years as in the past;

5) that a clearing is used only for 2-3 years;

6) that clearing of swiddens consists of felling, cutting, slashing and burning the dried vegetative debris;

7) that farming operations from tree felling to harvesting is initiated by the village priest after performing necessary rituals;
viii) that ownership of jhum land is vested in the village and the individual/household has only usufructory rights;

ix) that the selection of the area and distribution of patches among households follow group deliberations and decisions taken in the meetings of the village elders under the village headman;

x) that the allotment is proportional to the need and manpower available to the allottee;

xi) that in the allotment, secular headman, the ward member and the village priest receive priority;

xii) that it is a nucleus of an occupational complex around which other economic pursuits as settled cultivation, forest collection, hunting, fishing, animal husbandry and wage-earning revolve;

xiii) that it is a collective production system with the village at the apex and the household at the bottom;

xiv) that it is continued as main source of livelihood for those who do not have permanent land;

xv) that it is carried through the use of traditional skills and techniques;

xvi) that it is a hard, arduous and risky job and not the occupation of the lazy and lethargic;

xvii) that implements are simple, consisting of bullock drawn ploughs and handtools;

xviii) that it is organized with very little investment in seeds, implements and manure;
xiv) that it is primarily labour intensive with very little specialisation and division of labour;
xx) that it is free from the employment of paid labour;
xxi) that it is accomplished by household labour complemented or supplemented by mutual help between participating households;
xxii) that different cropping pattern is carried on in the same patch in different years of cultivation;
xxiii) that a number of crops are simultaneously raised in different parts of the same patch under first and second year cultivation;
xxiv) that certain short-duration crops, like minor millets, maize and paddy are grown primarily for subsistence;
xxv) that a few specialised crops like niger, blackgram, arhar etc. are grown for exchange;
xxvi) that it facilitates the collection of a number of other items like, fodder, fuel, edible leaves, fruits and shoots, timber, thatching grass, fibre etc. simultaneously;
xxvii) that edibles collected from and around swidden and food crops grown in swidden help to maintain a balanced diet;
xxviii) that the practitioners do not consider it uneconomical as they obtain several other useful items in addition to the cultivated crops;
xxix) that the yield per acre/unit comparatively less than that from the wet land and plain land cultivation;
xxx) that it is neither oriented towards profit nor for the accumulation of assets and wealth;

xxxi) that it does not run the risk of total crop failure either due to drought or excessive rain as crops ripen one after another at different times spread over about six months;

xxxii) that it provides consumable items acceptable to the blacksmith, the basket-maker, the oilman, the milkman and the potter in exchange of their merchandise; is related to the blacksmith, the basket-maker, the oilman, the milkman and the potter in exchange of their merchandise;

xxxiii) that it functionally is related to the socio-cultural systems of which it is a part and

xxxiv) that it is still a way of life with a number of inherent advantages in the context of its practice.

XVII

The study indicates that shifting cultivation among the Pauri Bhuyan is a deep-rooted and time-honoured practice having special significance in the life of the community. For a considerable period the tribe was virtually autonomous. Their villages were self-sufficient; each village constituting a unit of the regional organization known as Parhã, headed by a chief called Sardar. The tradition claims that the installation of the first King of Keonjhar was effected by the Pauri Bhuyan themselves about two centuries back. The institution of kingship did come on the way of the Bhuyan claim as the 'master of the soil'. The community continued to enjoy their traditional rights in the use of land and forest located within the village territory. The situation changed considerably after
independence, Keonjhar along with other princely States was merged with Orissa State in 1948 and brought within the ambit of the Government of India administration. At the first instance various measures, both restrictive and ameliorative, were taken up to stop shifting cultivation. The restrictive measures included a) declaration of large areas as reserved forest, b) imposition of various restrictions on the use of forests and collection of forest produce and c) covering Podu ravaged areas by plantation programme and soil conservation measures. The ameliorative measures consisted of (a) establishment of colonies for settled cultivation with subsidies for the purchase of cattle, agricultural implements and seeds, (b) allotment of developed land for settled cultivation and (c) conducting land survey and settlement for issuing Record of Rights (ROR). In addition to these, the Tribal Welfare Department, with the sole aim of serving the interest of the Scheduled Tribes, implemented various measures for their socio-economic upliftment including the improvement and rationalising the practice of shifting cultivation. All these efforts, though initially had adverse effects on the shifting cultivators succeeded in weaning away a small number of persons from this traditional practice. With reference to the Pauri Bhuyan Mahapatra (1965-66:47) has observed "In spite of initial reverse and suspicion of the Government intention, the shifting cultivators have gradually accepted living in colonies. This has hastened the process of change-over to agriculture, already taking roots in the self-sponsored attempts in the hill villages to a limited extent."
The forces generated by induced factors have further accelerated the process of change in recent years through tribal development programme launched under a Tribal Sub-Plan approach and through special Podu prevention scheme. All these have resulted in exposing the Pauri Bhuyan areas, like most other areas, to new ideas and new technology, opening of new means of communication, spread of education and growth of political consciousness. The Pauri Bhuyan have become aware of the shrinkage of forest coverage and low yield from swidden due to shortening of the period of recoulement, short supply of suitable patches for permanent cultivation, growth of population and infiltration of land grabbing communities like the Mahanta, Gouda and Pana from the outside. All these factors have induced the Pauri Bhuyan to rethink their dependence on the traditional mode of living. In some areas they are evidently passing through a crucial period and wanting change as can be seen in their demand for good land and modern facilities.

Thus the situation in the Pauri Bhuyan habitation is not uniform. Where swiddens are available, more particularly in the interior areas shifting cultivation is still practised without much of Government interference. In some other areas, it has been totally stopped as swiddens are not available. They are forced to depend on permanent cultivation on plain land they have at their disposal. There are also some settlement colonies of the Pauri Bhuyan who have been assisted by the Government to lead a settled life.

There are Pauri Bhuyan villages where neither swidden nor is plain land adequately available. Consequently the
inhabitants are found migrating to forest clad areas to eke out a living by shifting cultivation. The results of Government measures are not always encouraging. In some areas the Pauri Bhuyan have been reduced to landless labourers, marginal or small cultivators. Their women, in particular, have either become jobless or underemployed.

Shifting cultivation still continues to be a problem of great concern all over the world and has become a priority for discussion in order to look for a suitable solution to tackle it. The consensus surfacing from discussion is to discard the "total ban approach" and not to view shifting cultivation as "a necessary evil" but as "a harmful exploitation of environment". Thus the current approach emphasises equally on environment as well as culture seeking improvement in the quality of environment as well as in the quality of life of its practitioners. In other words it suggests rationalisation of swidden cultivation by adopting scientific methods and eliminating its harmful effects on vegetation through horticultural plantations and other species which are needed in their day-to-day life.

The problem of shifting cultivators may vary from community to community, even in the same community and there may be variation from area to area, and as such all cannot be dealt with a set of common programmes. Thus before preparing any restorative and ameliorative programme for the swidden cultivators, the micro situations should carefully be studied and properly understood. Implementation of any programme should go hand in hand with follow-up action, so that the achievement of the desired goal is fairly assured.