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## **HEALTH PROBLEMS AND AMELIORATIVE CHALLENGES AMONG TRIBAL COMMUNITIES: A STUDY IN MAYURBHANJ DISTRICT OF ODISHA**

The tribal groups inhabit widely varying ecological and geo-climatic conditions in hilly areas, forest, in different concentration throughout the country with different cultural and socio-economic backgrounds. The extensive poverty, illiteracy, malnutrition, deficiency of safe drinking water and sanitary conditions, poor maternal and child health services and ineffective exposure of national health and nutritional services have been traced out in several studies as possible contributing factors to miserable health conditions prevailing among the tribal population in India. In this article, the author focuses on certain interacting factors like nutritional status, forest ecology, and health care practices which are generally responsible for determining the health status and health behaviour of tribal communities. It also focuses on traditional knowledge about the health care system, what they think about people with it or about the health system response to disease, and what they actually do with regard to seeking care or taking other action related to disease.

India is the second largest country in the world in respect of human population. Over 550 tribal communities are covered under 227 ethnic groups residing in about 5000 villages of India in different forests and vegetation types (Sikarwar 2002). Odisha has 62 different Scheduled Tribes with over a million tribal populations. They have a very good knowledge of the plant resources, based on generations of experience. Our knowledge of intimate relationship between man and plants in his immediate surroundings has been passed on to us mainly through surviving tradition (Jain 2004). However, with the passage of time and development of technological medicine and health infrastructure this knowledge is under serious threat. The traditional knowledge about the use of the naturally available plants and their products has been transmitted through oral communication within the society and has passed from generation to generation. The uses of various plants and their products have been reported for post delivery care by Kaur (1999). In recent times, with the increased knowledge of life and culture of the tribal communities, the social scientists are taking interest in ethno-medicinal

studies. Many works have been reported, especially from among the rural and tribal communities of India (Bhadra and Tirkey 1997; Sharma Thakur 1997; Choudhury 2000).

Indigenous knowledge is the knowledge possessed by the members of a defined community - a community in a typical Redfield's sense of a folk community. The knowledge of the folk community grows over time and hence could be assumed as processual. Indigenous knowledge by our assumption is shared, holistic, integrated with local fauna and flora. The rules of behaviour in the community, its culture and values are tuned to that knowledge. It is ethical where values of right and wrong are defined based on which actions or thought are evaluated as fulfilling or disappointing. The indigenous knowledge is small in scale. It is cognitive. It is generated by reasons and experimentation but may not be highly analytical. It is affective and conative. Its transcendental values are understood in many ways. Its intelligibility is buried in hosts of symbols and their interpretations. It has to be relevant to the local situation and therefore has to be functional in some sense. It has the possibilities of profound paradoxes and contradictions. Facts and values get linked. From this perspective when we review the Indian situation, it is noted that the indigenous knowledge system has promoted tremendous diversity of cultures (Singh, K. S. 1992).

The state has one of the oldest and richest cultural traditions of using medicinal plants. The tribal people of the state still depend on the common traditional ethno-medicine for their day to day primary health care. These medicinal plants gain further importance in the region where modern health facilities are either not available or not easily accessible (Dash B, Dash NC, 2003). Guite and Acharya (2006) have shown that the acceptance of a particular health care system among the tribal people mostly depends on its availability and accessibility. Odisha is a varied climatic region and has a rich and diverse flora and mixed floristic composition of aboriginal species used in traditional medicine. Although a good amount of investigation held in the Northern part of Odisha. Mayurbhanj is one of the tribal dominated districts of Odisha. The district is the homeland of large numbers of tribes with their sub-tribes of found in interior part of forest. Despite the various developmental activities, the traditional medicine system is quite stable in the area. The present study highlights health care system of the tribals.

Traditional medicine practices are conserved over decades from old civilization. It can serve as an effective basis for discovery and development of modern therapeutic drugs. There are considerable benefits in the development of indigenous medicines and in the use of medicinal plants for the treatment of various diseases. The tribals have full faith in them and their time tested medicines. These medicinal plants obviously need correct botanical identity and other scientific confirmation for the facts and acceptance. In this context, ethno-botanists can play a very useful role in returning such disappearing

knowledge to local communities. In this way, local ethno-botanical knowledge can be conserved as part of the living cultural-ecological systems, helping to maintain a sense of pride in local cultural knowledge and practice and reinforcing links between communities and the environment, so essential for conservation. The practice of using herbs to treat diseases dates back to the very earliest period of known human history. Due to constant intimacy with vegetation cover, primitive societies have gained profound knowledge about the medicinal utilities of plants. They have full faith in them and their time tested medicines. These medicinal plants obviously need correct botanical identity and other scientific confirmation for the facts and acceptance.

### **Literature Survey**

Before the development of survey tools, seek out existing health services statistics to avoid duplicating efforts or collecting data unnecessarily. A thorough literature review can tell us what is already known and suggest areas that need further exploration. Begin by reviewing the National Demographic and Health Survey (DHS) and available surveillance data to understand the context of different diseases in the country. Next, search for any previously conducted quantitative surveys or qualitative research studies that may have included topics related to the issues you want to study. Information collected from colleagues working in other organizations and local stakeholders such as Ministry of Health personnel if they have information, materials or experience to share with researcher. Partnerships are vital to successful formative research, and survey should begin by leveraging existing institutional resources to gather strategic information (Nachbar N, Baume C, Parekh A.1998). Possible data sources include: National programme data, Publications and documents from partner organizations, Peer-review journals, Local newspapers, Masters or doctoral dissertations, Websites on the internet, Surveys (local, national, international), Local experts, such as community leaders, media agents or health workers. Depending on the data that already exist, you may be able to identify gaps that can be filled with survey. Data are unlikely to describe the reasons why people postpone seeking medical care when they have symptoms, what sources of health information are most trusted, how patients feel they have been treated at facilities, or whether stigma is associated with diseases.

Plants have always been the source of medicine and of direct use to the mankind. The history of early civilization reveals that a considerable number of drugs in modern medicine figured in ancient manuscripts such as Rig Veda, the Bible, the Quran, and the Iliad. All systems of traditional medicine have their roots in folk medicine and household remedies. However some of those earliest remedies were subjected to certain refinements, revisions and improvements through practices by trained medicine men. The people were using various recipes traditionally from generation to generation and

only some of them have been Ayurveda (Ayur-life, Veda-knowledge), the Indian system of medicine, offers certain plant products (known as Rasayana) to strengthen the body resistance to disease. The passage of time saw the birth and progress of the modern medical system. The faster pace and the need for the faster cure led to the proliferation of the synthetic drugs. Medicinal plants are moving from fringe to the mainstream use, in some cases free from side effects caused by synthetic chemicals. India is an outstanding country because of its great wealth of genetic resources and complex cultural diversity. The adaptation of the various human groups to the rich biological resources has generated invaluable local knowledge systems that include extensive information on plant uses in general and medicinally useful species in particular. In spite of the ecological and ethnobotanical significance of the forest in the context of present day environmental and health crisis, the forests are being cleared, denuded and degraded at an alarming rate. Degradation of forest adversely affects many plant species possessing medicinally important bioactive compounds due to the destruction of their natural habitats- owing to rapid agricultural development, urbanization, indiscriminate deforestation and uncontrolled collection of plant materials. Recently considerable attention has been paid to utilize eco-friendly and bio-friendly plant- based products for prevention and cure of different human diseases via traditional knowledge. In this context, ethno-botanists can play a very useful role in returning such disappearing knowledge to local communities. In this way, local ethno-botanical knowledge can be conserved as part of living cultural-ecological systems, helping to maintain a sense of pride in local cultural knowledge and practice and reinforcing links between communities and the environment, so essential for conservation (Gary J, Martin J, 1995).

In the past decade there has been renewed attention and interest in the use of traditional medicine. The World Health Organisation has pointed out that the traditional medicine is an important contributor to its health goal. Today, according to World Health Organisation as many as 80 per cent people depend on traditional medicine and in India 65% of the population in rural areas uses Ayurveda and medicinal plant to help meet their primary health care needs. Thus, traditional medicine practice conserved over decades from old civilization, can serve as an effective basis for discovery and development of modern therapeutic drugs. There are considerable benefits in the development of indigenous medicines and in the use of medicinal plants for the treatment of various diseases (Lambert J. Srivastav J and Vietmeyer N, 1997).

Studies on traditional medicine in Odisha though started only recently, have given very encouraging results and is gaining momentum with more and more botanists taking the subject seriously. Noteworthy contributions on the subject in hand are those of Jain (1971), Pal and Banerjee (1971, 1974), Saxena and Dutta (1975), Mudgal and Pal (1980), Saxena and Brahman (1994),

etc. However, limited tribe-wise or ethnographic explorations have been done in the state. Only a few studies (Saxena *et al.* 1988; Pandey *et al.* 2000, 2002; Pandey and Rout 2003; Rout 2005) have been carried out on the tribals of the state who utilize a number of medicinal plants available in the forests, as treatment of various diseases. But the information on plants used for reproductive health and fertility control is meager in these publications. However, in a study, Dash and Dash (2003) have observed that although a large number of plants are associated with food, economy and religion, the use of plant species as traditional medicines are dominant in the entire tribal society.

According to Edwards (2004) about two-thirds of 50000 medicinal plants in use are still harvested from the natural habitat and about one-fifth of them are now endangered. The indigenous knowledge on medicinal plants is gaining worldwide recognition. The World Health Organization has estimated that more than 80% of the world's population in developing countries depends primarily on herbal medicine for basic health care needs (Vines, 2004).

Ray and Sharma (2005) have given a description of ethno-medicinal beliefs and practices prevalent among the Savaras, a tribal community of Andhra Pradesh. Kumari (2006) gave an account on the concept of illness and disease and the application of folk medicine among the Sauras of Jharkhand. A number of organizations within India are concerned with maintaining India's Traditional Medicine System. Recently the importance of these traditional medicines has been realized worldwide as some of them proved to be more effective (Marini-Bettolo 1980). Nearly 80% of the world population depends on traditional medicines, most of which involve the use of plant extracts (Sandhya *et al.* 2006). In view of the importance of traditional medicine which provides health services to 80% of the world population, increased demand of herbal drugs by the pharmaceuticals and depleting natural plant resources, it is high time to document the medicinal utility of less known plant available in remote areas of the country (Zaidi and Crow 2005). Moreover, the health care scenario in urban India as well as globally, is undergoing dramatic transformation, evolving into a new emerging situation that emphasizes preventive health, customized care, body-mind medicine and the use of natural products (Bodeker *et al.* 2005).

### **Problematic Issues**

The 10<sup>th</sup> Five year Plan document maintained that there are still issues of Tribal Development remaining unresolved. They are related to displacement, land alienation, indebtedness, shifting cultivation, and deprivation of forest rights (pp.456-59). There are problems still persisting doggedly. These are low literacy and high dropout rates, inadequate and inaccessible health services, nutritional deficiency and diseases, inadequate irrigation facilities, extreme/object poverty, endangering of intellectual rights, crime and atrocity

against, neglect of forest villages, declining population of the Primitive Tribal Groups, ineffective implementation of the Panchayat Extension to Scheduled Areas Act 1996, and a non-innovative routine mechanism in the implementation of the much talked Tribal Sub-Plan (459-462). As these problems are “blooming up into challenges and manifesting into unrests”, this Plan considers “tackling these issues and problems on a time bound basis” and projects the venture as “the best approach to Tribal Development...” and proposes to realize its targets by “providing adequate space and opportunity for the Tribes to empower themselves with strength of their own potentials, ...” (p. 463); through the resolution of the “unresolved issues” and by solving the “persisting problems” (p. 464).

Health and disease are measures of the effectiveness with which human groups, combining cultural and biological resources, adapt to their environment. Every culture irrespective of its simplicity and complexity has its own beliefs and practices concerning diseases. The culture of community determines its health culture. Health problems and practices of any community are profoundly influenced by interplay of complex social, economic and political factors. Due to the belief in supernatural elements and religion in matters concerning health, the rural people and the tribes are almost invariably found to response faith in diviners or the traditional medicine men, sorcerers and shamans. However, tribes and rural people are not averse to accepting western medicine, whenever available. Ethnomedicine deals with those beliefs and practices relating to health and disease, which are the products of indigenous cultural development. Traditional medicine is the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses. Traditional medicine that has been adopted by other populations (outside its indigenous culture) is often termed alternative or complementary medicine. Herbal remedies are considered the oldest forms of health care known to mankind on this earth. Prior to the development of modern medicine, the traditional systems of medicine that have evolved over the centuries within various communities, are still maintained as a great traditional knowledge base in herbal medicines (Mukherjee, P. K. and A. Wahil, 2006). Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written document (R. Perumal Samy, and Ignacimuthu, S, 2000) and this is found among many indigenous people even today. In some Asian and African countries, 80% of the population depends on traditional medicine for primary health care. In many developed countries, 70% to 80% of the population has used some form of alternative or complementary medicine (e.g. acupuncture) (W.H.O Report).

Against the above backdrop, the overall objective of this study is to gather information about what respondents know about traditional knowledge

about the health care system, and what they actually do with regard to seeking care or taking other actions related to disease. Surveys can identify knowledge gaps, cultural beliefs, or behavioral patterns that may facilitate understanding and action, as well as pose problems or create barriers for disease control efforts. Surveys can also access communication processes and sources that are key to defining effective activities and messages in diseases prevention and control. Surveys may be used to identify needs, problems and barriers in programme delivery, as well as solutions for improving quality and accessibility of services. A survey could also be designed to explore ways to involve all health providers in disease control including outpatient government services, hospitals, and NGOs.

### **Objectives of Study**

The following are the objectives of survey:

- To provide a profile of the area and the socio-economic background of the respondents.
- To delve the knowledge, attitudes and practices (KAP) of recently diagnosed patients and to identify barriers to seeking care.
- To explore the barriers test by the respondents and discrimination practices in this study area, so as to locate the ameliorative challenges faced by them.
- To suggest measures for better medical care and practices for sustainable health practice in this area.

The rationale behind choice of the district is the following: (1) the tribals of Mayurbhanj district mostly inhabit the hilly regions, mainly in close proximity to forests comprising near more than 58 per cent of population in the district. (2) The district in which almost all of the Primitive Tribal Groups (PTGs) live for centuries, being far away from the mainstream in their relatively isolated, inaccessible, less fertile and less agriculturally productive regions of forests, hills and mountains; (3) the traditional health system of the tribes is mostly based on the plants available within the locality; and (4) the district that is, not well communicated with the district head quarter hospital.

Tribals live in such a remote area where medical facilities are not available, for which they depend on traditional medicine. The doctors appointed in such areas are not interested to attend the medical facilities on the one hand and on other hand the tribals even today never attend the medical for their health diagnosis because of strong faith on traditional medicine. For the betterment of tribals' health, Government hospitals, NGOs and traditional medicinemen have been working separately in the study areas.

### **Methodology**

The study is mainly based on primary data collected from selected respondents in the affected district of Mayurbhanj through multi-stage



random sampling procedure. The researcher has conducted his study in two blocks of the district that are *udala* and *kaptipada*. Under these two blocks numbers of GP was selected. Field survey have been undertaken in 15 remote tribal villages and forests areas among Ho, Munda, Gond (Nayak), Mahanto, Kolho Santhal (Majhi), Sabaras, Ho, Bhumij, Bhuyan, Kumhar, Bathudi, Lodha and Kharia tribes in Udala, and Baripada sub-division of the district. Old and experienced men, women, and medicine men (*Vaidya, Kaviraj, Guni*) were interviewed for first hand information on ethno-medicinal uses of the plants. The number of villages were selected from district for study. In the villages of district, 300 heads of the households were selected on a random basis aggregating a total sample including both male and female available during interview. 183 men and 117 women were interviewed. The selected sample respondents were contacted in their respective residence and the required primary information was collected with the help of a semi-structured interview schedule by trained local investigators. Some of the important variables covered in the study in respect of impoverishment risks include customary rights and privileges, traditional knowledge system. Further, with the help of focused group discussion, additional data were procured regarding awareness campaign among tribals. The interviews were individually carried out during the first contacts with the local population, “native specialists” were identified, in other words, people who consider themselves, and are considered by the community as having exceptional knowledge about the use of plants.

Several field trips were undertaken for the collection of plants during different seasons. Information on the plants was gathered through oral interviews of the local tribal people, especially older persons, local medicine men and herbalists (*Vaidya, Kaviraj, Guni*). All gathered information was crosschecked with people of other villages and other individual practicing or near the locality in which the plant material was collected also comparison was made between the information provided by the tribal people and available literature (Chopra, R.N, Nayer, S.L, and Chopra, I.C, 1956). These data then can be analyses quantitatively or qualitatively depending on the objectives and design of the study. Survey can be designed specifically to gather information about Traditional Knowledge related topics, but it may also include questions about general health practices and beliefs.

### **Socio-Economic Profile**

Among the tribes the chief ones include Santal, Kol, Bhumij, Bhuyan, Bathuri, Kharia, Gonds, Mankdias, Pauri-Bhuyan, Saharias, Mahalis and Sounti. Some of these tribes namely Kharias, Mankdias and Sabaras are still in a primitive state of living. They depend solely on their surrounding forests ranging from food to medicines. Agriculture is not well developed and therefore most of them depend solely on forests for catering their daily



and perpetual need from food to medicine. Since time immemorial, the intimate association and dependence of the tribal communities on the local natural resources has enriched them with invaluable knowledge on bio-resource utilization and consequently they have developed extensive knowledge on various plants.

Among the interviewees, 10% were aged 21-40 years, 40% were 61 years old or more and half of the sample (50%) were in the 41-60 age range. The table-1 shows that 39.34 per cent tribals monthly income is 1000 to 4000. 34.33 per cent tribals monthly income is 5000 to 8000. 15.33 per cent tribals monthly income is 9000 to 11,000. 11 per cent tribals monthly income is above 11,000. They spend their monthly income in three sectors that are family, education and health. 65 per cent tribals expend their monthly income in family structure to maintain their family. 24 per cent tribals expend their monthly income in educational structure to educate their children. 11 per cent tribals expend their monthly income in health structure for the treatment of various diseases. In the above table it is clear that few numbers tribals monthly income is high because either they are government servant or they are working in outsidess the state as worker in monthly basis. Some tribals monthly income is very low because they work as a labourer or cultivators. The data also clear that the tribals have more emphasised to fulfill their bailey and less emphasised to education and health. Without education and health they cannot improve their economic standard because a healthy person can think properly and work properly.

The tribals think that the good health depends upon the food habit and lifestyle. In their view one who takes fresh food never becomes ill. They think that the breakfast is much more important than lunch and dinner and the quantity of food in breakfast is needed to be big, the lunch is medium and dinner is very small quantity. The tribals belief that disease like dysentery came from water. According to the villagers smoking has bad effect on health. Asthma, High blood pressure is the causes of smoking. But the researcher has noticed many tribals take Bidi or Cigarette regularly. Consumption of alcohol is noticed among the tribals Population of this village. Many adult male especially who employed as a labour take alcohol regularly. Total 300 respondents were interviewed out of which 117 are females and 183 are males. Out of 300 respondents 25.84% were non alcoholic and 74.16% were alcoholic. About 31% individuals were found to be non-smoker and 69% smokers. Out of 117 females only 14% was found to be smoker and rest 86% were non smoker. Only 47% were alcoholics and 53% were non alcoholics. Out of 183 individual males 27.53% were non smokers and 72.47% were smokers and 39.13% were non alcoholics and rest 60.87% alcoholics.

The table 2 shows that over the last two census decades, the proportion of rural tribal households depending upon handpumps/tubewells as the primary and dominant source of drinking water has risen sharply, from above

over half in 2001 and about two-thirds by 2011. That this phenomenon has been exerting pressure on the groundwater stock of the State is commonly known. The above data clear that 9 per cent tribals used tap water, 31 per cent tribals used handpump/tubewell water, 47 per cent tribals used well water, 03 per cent tribals used tank water, 07 per cent tribals used river and canal water, 03 per cent tribals used other source as a drinking water. According to the 2001 and 2011 census data government record, tribals did not use tank, river and canal water as drinking water but in the survey data the research has found that 10 per cent people use tank, river and canal water as drinking water.

### **Knowledge and Attitude on Traditional Medicine**

In Mayurbhanj district, phytotherapy (treatment with medicines from plant and their derived products) forms an integral part of the local culture, and the information about plants and their uses are passed from generation to generation through folk-lore, primarily amongst the elderly; the natural retainers of traditional knowledge in their respective communities. Interviews with people out of the village in pastures or forests were conducted on a systematic basis to know more details about species, their management and distribution. The medicinal plants collected are listed here with their botanical names followed by family name, their local names in Oriya if any and the parts used for medicinal purpose. Many tribal communities are dependent upon indigenous system of medicine, which necessitates a regular supply of local flora, fauna and minerals, or of standardized medication derived from these. Husbandry of such local resources and of preparation and distribution of standardized formulations should be encouraged. Practitioners of Indigenous System of Medicine are heavily dependent on the natural medicinal plants. Traditionally, tribes-people are also dependent on natural sources for other needs such as primary and supplementary nutrition, contraceptives and general livelihood. Hence, it is necessary to ensure availability of medicinal and nutritional herbs in the natural resources surrounding tribal habitats and prevent destructive over utilization of these natural resources.

Tribals perform ritual remedies for diseases caused by malevolent deities / evil spirits and administer counter magic for those caused by sorcery practices. When a person suffers from chronic illness like tuberculosis, goiter, paralysis, etc, the patient approaches medicine man/ *Dehuri* to appease the deity, Jakara demudu / Nishani demudu / Pydithalli through religious rites, ritual offerings and magical procedure. When a person suffers from Chicken pox, Small pox, Measles, Cholera, etc, the patient approaches *Dehuri*, who is both physician and magician to seek remedy for the ailment. *Dehuri* performs some rituals chanting magic hymns/ mantras, waiving peacock feathers, offering *murga* to appease the Goddess and suggests healing methods and ties amulets to the patient. If the disease is caused due to food, environment

and behaviour, medicine man administers herbal remedies after physical observation of the patient and disease symptoms. Tribals believe that illness originate due to breach of customary taboos, wrath of deities and attribute to supernatural spirits and magico-religious causes.

Table 3 shows that 62.34 per cent tribals have good knowledge on traditional medicine. They prefer traditional medicine to protect the diseases. 37.66 per cent tribals have to prefer other; it means they believe on allopathic, Homeopathic and other to cure them from diseases. The above data clear that the large numbers of tribals prefer traditional medicine due to various reasons that are the district headquarter medical is far away from the tribal villages, there are no good doctors and due to outlying from villages they have the fear of burgle. Elders prefer traditional healthcare offered by medicine man of the same tribe to safe guard the tribal social hierarchical status, while youngsters do not discriminate to visit the medicine man of other tribes. Medicine man identifies the cause of illness and then selects the nature of treatment. Various herbal medicines are administered for the treatment of different types of ailments/diseases prevalent in Mayurbhanj district. Health and treatment are interrelated with the environment/ forest ecology, since forest is the main resource of getting medicine plants. Lactating mothers are advised to abstain from consuming cold food like gruel, banana and curd during nights to avoid ailments like cough, cold, fever, headache, etc, and hot food like drumstick, papaya, chicken to avoid inflammation of hands and legs, rheumatic pain and stomachache. Lactating mothers are forbidden to eat fish and pulses - black gram and green gram to avoid infant getting boils and scabies. As a result of these food taboos, children suffer nutritional deficiency diseases like anemia, scurvy and beriberi. Goiter is endemic among the tribes due to iodine deficiency in their diet.

### **Role Played by NGO and Other Service Providers**

Official agencies and more importantly some devoted and sincere reformist tribal and voluntary social organizations have begun a serious campaign to wean the addicts away from opium. Let us hope that they would succeed in their efforts. The speedy spread of health education among the tribals is very crucial. As most of the tribals are illiterate, various audio-visual methods may be adopted to put across to them the basic principles of health and sanitation. Needless to say that for raising the standard of health of the tribals, co-operative endeavour is necessary among the States, the center the non-official organizations and the medical personnel. The NGO sector may have to be encouraged to formulate and implement a system of preventive and curative health care that responds to seasonal variations in the availability of work, income and food for tribal and hill area communities and migrant and displaced populations. To begin with, mobile clinics may provide some degree of regular coverage to outreach. Health care providers in the public,

private and NGOs sectors will have to be sensitized to adopt a “burden of disease” approach to meet the special need of tribal and hill area communities. Local practitioner of traditional medicines and traditional birth attendants (Dais) are required to be properly trained and equipped.

The table 4 has cleared that there are three service providers who provides their service for tribals health development. 29.33 per cent respondents have given their opinion that health service provided by the Government through medical facility in these remote tribal areas. 31.67 per cent service provided by the NGO through help of various training programme regarding the improvement of tribals health condition. 39 per cent respondents views that they adopted traditional knowledge system during the diseases. In spite of Government and NGO effort they have strong faith upon traditional knowledge because the doctors who were appointed in the tribal areas they have not good knowledge. On the other hand doctors who have good knowledge, they were not willing to stay in the tribal areas. If the government has appointed them in this area, they try to transfer them in urban areas in a very short period of time. So it is cleared that till now large numbers of tribals follow the traditional knowledge system to rescue them from disease.

The table 5 shows that different tribal communities have given different opinion regarding health problem. The researcher has collected data both from men and women in separately. In the above data 61 per cent men and 39 per cent women have given their opinion that they face the health problem in these areas. 9.33 per cent among Ho, 9.33 per cent among Munda, 09 per cent among Gond, 09 per cent among Kolha, 09 per cent among Santhal, 8.66 per cent among Sabaras, 9.67 per cent among Bhumija, 9.67 per cent among Bhuyan, 9.67 per cent among Bathudi, 8.34 per cent among Lodha, 8.34 per cent among Kharia tribal communities have given their opinion that they face various health problems in these areas. There are many service providers working in these areas to solve the health problems of tribals but they do not get success. The target is very high and I think it can be achieved by the service providers especially for Government service providers.

The table 6 shows that different tribal communities have given different opinion regarding consultation during disease. There are three service holders that are Government hospital (29.33%), NGO (31.37%) and Traditional Knowledge system (39%) who provide their service in these tribal areas. 7.95 per cent among Ho, 9.09 per cent among Munda, 10.23 per cent among Gond, 9.09 per cent among Kolha, 10.23 per cent among Santhal, 9.09 per cent among Sabaras, 10.23 per cent among Bhumija, 9.09 per cent among Bhuyan, 10.23 per cent among Bathudi, 6.82 per cent among Lodha, 7.95 per cent among Kharia tribal communities have given their opinion that during the disease they go to government hospital for their treatment. 10.53 per cent among Ho, 7.37 per cent among Munda, 9.47 per cent among Gond, 8.42 per cent among Kolha, 7.37 per cent among Santhal, 7.37 per cent among Sabaras, 10.53 per

cent among Bhumija, 10.53 per cent among Bhuyan, 9.47 per cent among Bathudi, 9.47 per cent among Lodha, 9.47 per cent among Kharia tribal communities have given their opinion that during the disease they go to NGO service provider for their treatment. 9.41 per cent among Ho, 10.26 per cent among Munda, 7.69 per cent among Gond, 8.54 per cent among Kolha, 10.26 per cent among Santhal, 9.41 per cent among Sabaras, 11.11 per cent among Bhumija, 7.69 per cent among Bhuyan, 9.41 per cent among Bathudi, 8.54 per cent among Lodha, 7.69 per cent among Kharia tribal communities have given their opinion that during the disease they go to local medicine men and adopted traditional knowledge system for their treatment. So the above data clear that inspite of government hospital, NGO also play a vital role in these areas but the large numbers of respondents have prefer to treat their disease either in the local medicine men or in they adopt traditional method for the treatment of their diseases. The tribals used the above data very ideally but few numbers of tribals also prefer to treat the diseases due to cheap of homeopathic medicine.

### **Health Problem and Policy Allocation: (Barriers and Ameliorative)**

The tribal communities in general and primitive tribal group in particular have been disease-prone in certain respects and have little access to basic health facilities, despite the fact that norms for establishing of sub-centres, primary health center and community health center have been relaxed for tribal areas. Their misery is compounded by poverty, illiteracy, ignorance of causes of diseases, hostile environment, poor sanitation, lack of safe drinking water and blind believes etc. Some special diseases of tribal areas are sickle-cell, anaemia, tuberculosis, leprosy, G-6 PD and reproductive tract infection. The tribals suffer from many chronic diseases but the most prevalent taking heavy toll of them are water-borne. This is mainly due to the very poor drinking water supply. Even when it is available in plenty, it is mostly dirty and contaminated and consequently the tribals are easily susceptible to intestinal and skin diseases. Diarrhoea, dysentery, cholera, guinea worm, tape worm, etc.

Decadal growth of Scheduled Tribe population is reported to be higher than that of the total population (26% is in STs as against 23.51% in total population 1991). Primitive tribal groups, however, have lower growth rate of population. TFR (1998-99) amongst scheduled tribe is 3.06 as against 2.66 for others. In tribal areas percentage of girls marrying below 18 years is as high as 60%. Regular reliable national as well as State-wise estimation of maternal mortality is not available due to inadequate sample size covered in various demographic surveys. However MMR is the highest in the tribal areas and most of these deaths can be prevented by improving access to food and health care facilities and RCH services. Infant mortality is higher in tribes as compared to non-tribes. About 79.8% of tribal children were anaemic and 50% of the children were under weight. Only 26% of the children in tribal areas

received all vaccine. Thus tribal people need special attention for improving their health, reproductive and child health status.

Another very important problem concerning health in the tribal areas is the addiction of the tribals to spirits and highly intoxicating liquors and drinks. The indigenous liquor is prepared by fermentation of the rice, millets and other grains. This is the traditional liquor of the tribals which is prepared within the four walls of the home and consumed by all the family members. The second variety is the distilled liquor which the license holders from the government sell. It is really an intoxicant and carries little food value. The poor tribals, in most cases are coerced to discontinue the preparation of homemade liquor and made to purchase the distilled liquor from the contractors. After making them addicts of this variety of liquor they are made to part with the property or enter into exploitative bargains. The only practical solution is the banishment of liquor contractors and the harmful liquor from the tribal areas so that they may be left free to brew their own liquor and fulfill one of their important nutritional and cultural needs by themselves.

Drug addiction is another serious health problem with several tribes. Though recurring wars, disease and malnutrition have played a role but deadly addiction to opium is the chief culprit for their fast declining population. It is said that opium has diminished the tribe's fertility, increased the death and contributed to the vicious circle of poverty. Almost every house of the tribals has a small hearth in one of the corners above which hang a blowpipe, a large spatula, and a packet of raw tea leaves, opium and tobacco. At any time of the day haggard, skinny tribes men can be seen making tobacco-opium concoction that they smoke along with generous swigs of the bitter tea liquor. Opium has become inseparable part of tribal life. One can detect a tribal by smell. They have become too indolent to look after their cattle and lands yet they must have opium, mostly by selling the elephants they trap. They have smoked it for decades and their forefathers were induced to it by the British.

The National Health Policy (1993) while recognizing the heterogeneous tribal population and their varied health problems accorded a high priority for extending the health services to those residing in the backward rural areas, with a concentration of STs. It laid special attention on the endemic diseases like Malaria, Tuberculosis, and Yaws, etc. The strategy adopted for meeting the health care needs including provision of preventive, as well as curative services through the primary health care institutions and at the village level through Health Guides and Trained Dais. The National Population Policy, 2000, therefore, recognized that these communities need special attention in terms of basic health, and reproductive and child health services and has spelt out operational strategies in the Action Plan for Tribal Communities, Hill Area Population and Displaced and Migrant Population. The Health Policy to meet the special needs of the tribal areas should provide the following :

- (i) extension of primary health infrastructure to cover both remote and



inaccessible areas with relaxed norms; (ii) evolving a new strategy of combining the indigenous tribal medicines so as to reach the health care to interior tribal areas and also allowing the tribals to contribute their traditional knowledge; (iii) training of motivated tribal youth as Village Health Guides; (iv) health education and health awareness amongst the tribals, (v) area specific strategies to improve access to and utilization of health services; (vi) specific agenda for medical research in case of killer or debilitating diseases tribals suffer from; (vii) focused programmes for eradication of Malaria, Leprosy, Blindness Control, TB and HIV in respect of tribals; and (viii) provision of PHCs, CHCs, Sub Health Centres etc. should also form part of the spatial planning with block as a unit. NGOs should undertake health schemes preferably where delivery system is weak. RCH programme and PHCs in such cases may be transferred to qualified and competent NGOs.

### **Medical care and practices (Inadequate Health Infrastructure)**

The climate of Mayurbhanj is extreme and Malaria is rampant in the district. All the twenty-six blocks are covered under the Enhanced Malaria Control Programme. Other diseases prevalent are Leprosy, Tuberculosis, and Fileria. The seasonal occurrences of cholera, dysentery and diarrhoea are a regular feature of the district. The situation is aggravated by the prevalent traditions and superstitions mainly in the backward pockets where the people rely on local tantriks and quacks. In the field of health, the status of tribals stands very precarious. The health infrastructure and its staff in the tribal areas remain not only inadequate but also very irresponsible to the health needs of the tribals. Therefore, special efforts need to be made to establish the necessary health infrastructure in tribal areas with most relaxed norms. Also, an intensive health education programme with Indigenous System of Medicine health system and strategies should be launched in tribal areas relating to preventive, curative and rehabilitative health services, as the alternative health systems viz., indigenous medicines which are very much in vogue amongst the tribal. Home remedy kits containing Indigenous System of Medicines may be made available to Panchayat Leaders/Teachers/Health/Anganwadi Workers for use. All Research Councils of Indigenous System of Medicine and Health, Tribal Research Institutes, Population Research Centres and ICMR research centres should work jointly on a regional basis to record the efficacy of herbal drugs traditionally used by tribals.

Due to local geographical and ecological conditions and relatively less accessible areas of tribal habitations, the mobile dispensaries and health centers shall be more purposeful than the static one. However, it is also not realistic to provide these mobile centers with ambulance or large vans which often cannot get along the rough roads/tracks even in fine weather. An ordinary jeep is quite sufficient to take a doctor with his staff and medicines to a number of outlying villages. It might even be considered that an improved type of



bullock cart could be sometimes used for the mobile units. In the north-eastern region these units have to be in the most difficult countryside on foot, and doctors there perform successful operations under the most adverse circumstances in the village camps. It requires sincerity and dedication to work under such conditions.

**Infant Mortality:** Infant mortality is defined as the number of infant deaths per 1000 live births in the year and death of children aged above 1 year to 12 years as child mortality. The poor economic condition, lack of sanitation and malnutrition has affected mother and child health. Mothers are under nutritional stress during pregnancy and lactation. Malnourishment of mothers leads to premature births and low birth weight babies. Mid wife assists mother at child birth in Agency areas, at times lead to delivery complications, contributing to both maternal and infant mortality. Infant mortality rate is significantly high among tribals. Tribals recorded higher infant mortality rate than the non tribes. The main factor contributing to high infant mortality was poor nutritional status of pregnant women. 50% of women are anemic during pregnancy. Higher infant mortality is due to cholera and cyclonic storm that devastated their habitation and economy. Many tribal communities (Primitive Tribal Groups) are dwindling in numbers, and may not need fertility regulation. Instead, they may need information and counselling in respect of infertility.

**Child Mortality:** Child mortality is high among the tribals. Female child mortality is slightly higher than males, resulting in a sex ratio of 66.67 males per 100 females. Major causes for child mortality are diarrhea, dysentery, cholera, stomachache, malaria, measles etc. Diarrhea and fever are common among children below 1 year of age; while malaria and accidents are frequent among children below 15 years of age. Relatively more children died either due to diarrhea / dysentery. This might be due to high mineral content in drinking water and cholera.

### **Indigenous healing methods**

Tribals in Mayurbhanj district have adopted the following method to rescuing them from different disease which caused due to various problem cited in above. These are collected for focused group discussion. NGOs are working in the tribal areas but the tribals do not listen about the awareness and preventive programme about common prevalent diseases and regarding the vulnerable diseases.

**Eczema:** (Papaveraceae); 'Kantakusuma' Seed paste (3 g) mixed with seed oil of *Madhuca longifolia* (1 ml) is applied fifteen days continuously on skin for the cure of eczema. The yellow juice is applied to stop bleeding from cuts and wounds.

**Skin diseases:** The incidence of skin diseases in non tribal was lower compared to the tribal group and the frequency in females was greater than

males. The tribes of Mayurbhanj district apply the mixture of *Neem* and *Karanja* oils, leaf and flower to cure scabies, skin diseases and nasal bleeding. (Zingiberaceae); Banhaladi, Rhizome paste is applied on new born child to prevent all type of skin diseases and also applied to dry up the child naval (round of placenta) and cures other infections. A paste made with its rhizome and dudura leaves (*Datura metel*) is applied on breast swelling of women.

**Body pain:** The numbers of females and male were suffering from body pains. Tribals of the district take begonia leaf for pains. Tribes of Mayurbhanj district administer decoction made from leafs and roots of gandhalis for pain relief. They drink the decoction made from stem bark of Naramamidi (*Litsea deccanensis* Gamle) to ease body pain.

**Joint pain / Arthritis:** *Arakh Sweto Arkho* (Asclepiadaceae) Leaves are ground with the leaves of *Ricinus cummunis*, *Datura metel* and alum (after exude out water by heating on hot iron) in equal quantity and made pills. Each pill (3 gms) is given in the morning and evening with hot water for 15-20 days in the treatment of rheumatism. Leaves are coated with mustard oil and slightly warmed and tied as bandage on the paining joint of the body. They apply mixture of *Neem* (*Azadirachta indica*) and *Karanja* (*Carissa carandas*) oils to treat rheumatism. They also used leaves and roots of Gandhalies to get relief from joints pain, body ache and indigestion. Lygodiaceae, Equal proportion of leaves mixed with leaves of *Andrographis paniculata* and rhizome of *Curcuma longa* are made into paste and applied for one week to get relief from joint pain.

**Head ache:** In tribal group, many persons were suffering from partial headache. Tribes of Mayurbhanj district take *fruits of Bichhuati* and *Dimiri* for pain relief.

**Gout, scabies and fever:** (Sapindaceae); 'Kusum' Stem bark paste is applied on skin before bed as curative against for itching and seed oil are used for treatment of gout and scabies. Seed-paste is heated and applied warm to the cuts. White patches on the skin are cured by applying seed-paste. (Rubiaceae); 'Gandhali' Two teaspoonful decoctions of leaves are given orally to control fever and gout. 3-6 gm powder of whole plant is taken twice a day for seven days in weakness to get strength and in rheumatism to get relief from joint pain.

**Boils /wounds:** Three males were inflicted with wounds in interior villages. Savaras of Srikakulam district apply leaf paste of *Bishyalyakarani* plant on the injured part for healing. They also take juice of the *Bishyalyakarini* to get relief from burning and cutting part of the body.

**Malaria:** (Oleaceae); 'Gangasiuli' 250 gm leaves is boiled with ½ liter of water till it becomes 100 ml and mixed with leaves juice of *Ocimum tenuiflorum*. This decoction is mixed with 50 ml of honey and prescribed for 3 days to cure malaria fever Apocynaceae); 'Patalgaruda' Juice extracted from

leaves mixed with the juice of *Andrographis paniculata* and *Azadirachta indica* and given it with honey to drink for seven day continuously to cure malaria. Malaria is emerging as the major public health problem in all tribes of Odisha. Local outbreaks due to malaria are of frequent occurrence, and the morbidity and mortality associated with the disease is alarming. The environment is conducive to mosquito proliferation, survival and longevity; all these prerequisites lend to active transmission of the malaria pathogen. Owing to the heavy rainfall and high humidity, mosquito fauna is rich and breeding habitats are diverse. The transmission of malaria is perennial and persistent in Odisha. This type of malaria is often termed as tribal malaria. In the tribal pockets, most people live under poor socio-economic conditions and are vulnerable to malaria transmitted by efficient vectors. Resistance to chloroquine (the commonly used anti-malarial) in *Plasmodium falciparum* (Pf) infection is wide spread. *Plasmodium vivax* (Pv) is highly susceptible to chloroquine and, thus, should always be the first line of treatment, but recently it has been reported that malaria has also become chloroquine resistance in some tribal pockets of Odisha. The problem is further compounded by the poor administrative control for organized malaria control operations.

Malaria is the foremost public health problem of Odisha contributing 23% of malaria cases, 40% of plasmodium falciparum cases and 50% of malaria deaths in the country. More than 60% of tribal populations of Odisha live in high risk areas for malaria. Though the tribal communities constitute nearly 8% of the total population of the country, they contribute 25% of the total malaria cases and 15% of total *Plasmodium falciparum* cases. Various epidemiological studies and malariometric surveys carried out in tribal population including primitive tribes reveal a high transmission of *Plasmodium falciparum* in the forest regions of India, because malaria control in such settlements has always been unattainable due to technical and operational problems. In a specific study conducted in Mayurbhanj district, it was observed that the district is endemic for malaria and is hyperendemic in top hills where primitive tribes are residing. Insecticide impregnated mosquito nets popularly known, as medicated nets is one such approach to ward off the dreaded vectors to reduce the man mosquito contact. This strategy is simple, cost-effective, environment friendly, sustainable and involves the much needed community participation which is vital to the success of any health program. This method of vector control when integrated with health education, inter-sectorial cooperation and biological control, coupled with early detection and prompt treatment will provide a long lasting solution in keeping with the global strategy for malaria control. In the rural area village, health sub-centres are established on the norm of 1:3,000 populations by which standard the present requirement of sub-centres is 174 over and above the 521 sub-centres already established. Similarly, should new PHCs taken up on the basis of 1:20,000 population, the district would need an additional thirty PHC's.

No development is development enough unless we assure the right to be born for a child and the right of a woman to bring her baby into this world in a safe and dignified way. By providing better health facilities to these thousands and faceless populace under RSVY, we would just be taking one step further towards creating a better nation state. Mayurbhanj, which is the largest district of Odisha, has a population of 23, 21, 432 (2005 midyear) of which about 60% are tribals. Only 23% of deliveries conducted in the district are institutional. Untrained personnel do 30% of deliveries. 15% children do not receive desired immunization in their first year of life. Only 68% of pregnant ladies complete three antenatal checkups. The IMR of the district is 52 per 1000 live births and MMR is 150 per 1,00,000 live births. Out of the children who die before first year of life 70 die within first week of their life. Bottleneck of the existing health and family welfare delivery system is avail among the tribals. Operational inefficiency in the health care delivery programs, without economical incentives efforts made to involve local tribals. Malaria is endemic in Mayurbhanj and overall Annual Parasite Index is around 16%. This will improve the access of people to institutional delivery in a hygienic and scientific environment. This will promote institutionalized delivery and thereby lead to reduction of IMR and MMR.

Due to the absence of attendant rest shed in referral hospitals like SDH and DHH, the attendants tend to stay with the patients inside ward. In a district where there is 42% bed occupancy rate, attendants staying inside the ward cause overcrowding and unhygienic conditions. 80% of the patients are from poor ST/SC population and due to absence of staying place, their attendants are exploited by middlemen and made to stay in unhygienic conditions at exorbitant rates. In fact this is a major reason why patients don't prefer to come to referral hospitals and they continue with their poor health care seeking behavior. Establishment of attendant rest shed in referral hospitals will go a long way in promoting institutional delivery and health care seeking behavior of poor tribal population. There is no infrastructure in the entire district to take care of the new born in case of complicated cases thus the survival rate of babies born in the above mentioned case is very low. In order to bring down IMR it is very essential to save babies born in complicated cases and this can be done thorough this proposed unit. Details of projects to be taken up in health sector are given in table 8.

## **Result Discussion**

Plant species used for different health problems, together with botanical name, family, local names; parts used followed by folk uses were recorded and compiled. This study reveals that the inhabitants of the forest area of Mayurbhanj have a vast knowledge about ethnomedicinal uses of plants growing in their vicinity. The tribal inhabitants like Kharia, Mankadia, Bhumija, Santals, Gonds, Kols and Mahalis live in deep forests and use a

large number of plants for medicine. The tribal's are not interested to share their knowledge with others. However, after developing intimacy with some of the medicine men and other traditional healers, information on medicinal uses has been collected and is presented in this paper.

The data collected have shown that majority of medicines are taken orally. Most of the reported preparations are drawn from a mixture of plants. The tribal's inherited rich traditional knowledge about the medicinal uses of flora investigated and applies this knowledge for making crude phytomedicines to cure infections and a number of ailments from simple cold to other complicated diseases. The present paper has highlighted the plants and plant products used as causing more on alternative medicine which has a predominantly herbal base. The modern medicine has brought a revolution throughout the world but the plant based medicines have its own unique position. With the influence of urbanization among the Bhumijas and their awareness towards the advent of modern health care facilities and Government health measures, these people are becoming more interested in taking modern medicines instead of traditional herbal medicines. But still the prevalence of traditional medicines is observed in this tribal region. The present study is based on the data collected from several villages situated in the urban fringe. The local uses of plants and plant products are common particularly in those areas, which have little or no access to modern health services. But, these people can easily avail modern medical facilities from the nearby town or District Headquarter hospital of Mayurbhanj and it is found that the new generations is not very interested in the indigenous methods of treating diseases. They are not even concerned about the importance of these herbal plants and its medicinal values. The observation also reveals that the Bhumijas use roots, stem, bark, flowers, rhizomes, leaves and seeds as the most common plant parts for medicinal preparation to cure different reproductive health problems. Despite all factors, the tribals are still using traditional medicines though the prevalence of these medicines is waning.

## **Conclusion**

India have an imperative need to systematically document the traditional knowledge on the use of medicinal plants in all autonomous communities or areas, many of which are still largely unexplored. Such documentation is necessary because older people are usually the only custodians of such information and the fast disappearance of traditional cultures and natural resource arising from urbanization and industrialization of such areas suggest that unrecorded information may be lost forever. Documentation of medicinal plants could well benefited general health care and promote forest conservation.

This study shows that knowledge and usage of herbal medicine for the treatment of various ailments among tribes is still a major part of their

life and culture. Cultural and biological biodiversity are intimately and inextricably linked. The indigenous phototherapy of tribes can provide a useful alternative to conventional human health care. Traditional knowledge system is important for modern societies, not only because traditional knowledge itself is a valuable aspect of cultural heritage and should be protected in its own right, but also because of its great value in modern development, especially regarding the sustainable use of forests, ecosystem services and management. It is an urgent task to record the posterity, whatever is valuable in the tradition of the tribes, their way of life and their knowledge of the plants before all these disappear.

The study reveals that the Bhumijas have vast knowledge about ethno-medicinal uses of plants growing in their vicinity. It has been well revealed in this study that the Bhumija community has been changing at a certain pace along with their health seeking behaviour. The tribals inherit a rich traditional knowledge about the flora investigated and apply this knowledge for making crude herbal medicines to cure different diseases. But it is observed that the traditional knowledge which formed the basis for the origin of alternative medicine also paved way to evolution of modern medicine. Now such indigenous knowledge is facing slow and natural decline. However, the study certainly points out that the traditional reproductive health care system still finds its meaning of survival in the tribal domain. In this study, it is also found that though the Bhumijas are in favor of taking the modern medical facilities, the older generation still has inclination towards traditional medicine. Presently, very few elders in the tribal community practice traditional medicine, while the young generation knows little or nothing about the traditional medicine. If this trend continues, a few years from now, there will not be a single elder member in the tribal community who would speak on the traditional medicine. The growing disinterest in the use of traditional medicine for reproductive health problems among the younger generation will lead to disappearance of this practice. Therefore, greater efforts are required to document the rich traditional knowledge of the local people so as to prepare a comprehensive account of it. Wild plants and other natural resources used as traditional medicine unfortunately are being eroded due to the loss and degradation of their natural habitats or over harvesting for commercial purposes. Urgent measures for conserving wild genetic resources, as well as for kick-starting large-scale cultivation, are necessary (Shanker Darshan, 2007).

Now a day many tribals has belief on traditional medicine man. They took the patient to a man who is magico religious practitioner to cure illness. The magico religious practitioner performed some magico religious activity through chanting 'Mantra' and beating drum like musical instrument. It is noticed that many tribal suffering from Hypertension, Anemia, Skin disease and so many chronic diseases. They also prefer allopathic treatment to cure themselves. Most of the tribals use traditional medicine for curing diseases.

They mainly use herbal medicine for treatment. There are two medical practitioners who use traditional medicine. The knowledge of their medicinal practice transmitted orally from their father. They told that Traditional Medicinal treatment is time consuming. It takes more time to cure diseases than allopathic medicine but it cures diseases completely. From the data I have noticed that herbs (40.74%) are the most used plant followed by the shrubs (27.63%) and trees (31.63%) in descending order. The data collected shows that the majority of the remedies taken orally and some externally. The present author is fully convinced that traditional ethno medicinal remedies in the area are valid and reliable. Doses vary sometimes depending upon age of sufferers. These treatments of diseases with plants and plant products also cause no side effect. Therefore, there is an immediate need to execute a revitalization strategy for protecting the indigenous knowledge from complete desertion.

### **Ameliorative challenges**

There are several challenges for policy makers, planners, administrators, implementers, doctors, social workers and nongovernmental organizations (NGOs) for the amelioration of tribal communities. Some of the suggestions are listed here for giving at least some relief to the suffering tribal masses:

1. A complete Mini Hospital or Health Unit (including a medically qualified Doctor, a Laboratory Technician, a Pharmacist and a Staff Nurse with required medicines and basic laboratory testing set up, etc.) in a Mobile Van should be set up which will cater to the health needs of the tribal community in a group of adjacent villages fixing a date at least weekly or preferably in the weekly tribal market to minimize the tribal sufferings.
2. A mass awareness and preventive programme about common prevalent diseases should be launched at weekly markets in tribal areas with increased interaction of Health Workers with the participation of local population.
3. Mass screening for genetically transmitted diseases such as hemoglobinopathies, bthalassemia syndrome, G6PD deficiency, hemophilia, colour blindness, etc. should be continued at an interval of certain period for carrier detection among the high risk tribal communities.
4. Providing Genetic/Marriage Counselor to affected tribal communities and families for the prophylactic guidance and future reproductive decisions.
5. Providing social and economic incentives and support for combating the common prevalent communicable and non-communicable diseases in the tribal community.
6. Maintenance of registry of common prevalent diseases will be an added advantage for future course of action and effective mobilization of health care machinery of the district, state or the region.
7. For nutritional deficiencies, localized research should be directed towards the easily or cheaply available food items, which could provide necessary nutrients with change of dietary practice to the vulnerable families and segments of the society.
8. Local agricultural produce should be marketed by the tribal cooperative societies rather than individually for the better profit without involving the intermediary



- agents. Financial incentives should be given for the transport of agricultural produce and communication. Services of anthropologists are indispensable for such monitoring.
9. To achieve operational efficiency in the health care delivery programs, efforts should be made to involve local tribals (preferably girls) with economical incentives, traditional dais, traditional healers in the health and family welfare delivery system after giving them proper training. Preventive approach like immunization, anti-infection measures and various other prophylactic aspects should be given more importance.
  10. Constraints and bottleneck of the existing health and family welfare delivery system should be identified, specifying clearly the infrastructure required, strategies to be developed which are in consonance with the felt needs of the local tribal population.

In spite of the tremendous advancement in the field of preventive and curative medicine, the health care delivery services in tribal communities especially in Odisha are still poor and need amelioration and strengthening with sustenance to achieve the targeted goals of health for all in India. Unless locality specific, tribe specific and need based health care delivery system is evolved which is appropriate, acceptable, accessible, and affordable, the goal of health for all would remain a Utopian dream!

**Table 1**  
**Distribution of Family Income**

Income level	Family Expenditure		Educational Expenditure		Health Expenditure		Over all Frequency	Over all Percentage
	N.R	%	N.R	%	N.R	%	N.R	%
1000-4000	78	40.00	28	38.89	12	36.37	118	39.34
5000-8000	73	37.44	21	29.17	09	27.27	103	34.33
9000- 11000	28	14.35	11	15.27	07	21.21	46	15.33
Above 11000	16	08.21	12	16.67	05	15.15	33	11.00
Total	195	65%	72	24%	33	11%	300	100%

\* N.R = Number of Respondents

**Table 2**  
**Distribution of Rural Households by Source of Drinking Water**

Source/Year	2001	2011	Distribution of Respondent (%) (How many person Used)
Tap	10.7	9.9	09
Handpump/tubewell	50.9	63.2	31
Well	35.6	25	47
Tank	-	-	03
River, Canal	-	-	07
Other	2.9	1.9	03

Source: District Gazetteer of Mayurbhanj District

**Table 3**

Tribals Knowledge	Frequency	Percentage (%)
Traditional Knowledge	187	62.34
Other	113	37.66
Total	300	100

**Table 4  
Service Providers**

Name of Service Providers	Frequency	Percentage
Government	88	29.33
NGO	95	31.67
Traditional Knowledge	117	39
Total	300	100%

**Table 5  
Health Problem Profile**

Name of the Tribals	Frequency in Household Wise		Percentage		Total	Over all Percentage
	Men	Women	Men	Women		
Ho	17	11	9.28	9.40	28	9.33
Munda	19	09	10.38	7.69	28	9.33
Gond	15	12	8.19	10.25	27	09
Kolho	17	10	9.28	8.54	27	09
Santhal	16	11	8.74	9.40	27	09
Sabaras	18	08	9.83	6.83	26	8.66
Bhumija	14	15	7.65	12.82	29	9.67
Bhuyan	15	14	8.19	11.96	29	9.67
Bathudi	17	12	9.28	10.25	29	9.66
Lodha	16	09	8.74	7.69	25	8.34
Kharia	19	06	10.38	5.12	25	8.34
Total	183	117	61%	39%	300	100%

\* N.R = Number of Respondents

**Table 6**  
**Consultation during Disease**

Name of the Tribals	Over all Frequency	Over all Percentage	Consultation During Disease					
			Govt. Hospital		NGO service Provider		Traditional Knowledge System	
			N.R	%	N.R	%	N.R	%
Ho	28	9.33	7	7.95	10	10.53	11	9.41
Munda	27	09	8	9.09	7	7.37	12	10.26
Gond	27	09	9	10.23	9	9.47	09	7.69
Kolho	26	8.66	8	9.09	8	8.42	10	8.54
Santhal	28	9.33	9	10.23	7	7.37	12	10.26
Sabaras	26	8.66	8	9.09	7	7.37	11	9.41
Bhumija	32	10.67	9	10.23	10	10.53	13	11.11
Bhuyan	27	09	8	9.09	10	10.53	09	7.69
Bathudi	29	9.67	9	10.23	9	9.47	11	9.41
Lodha	25	8.34	6	6.82	9	9.47	10	8.54
Kharia	25	8.34	7	7.95	9	9.47	9	7.69
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>88</b>	<b>29.33%</b>	<b>95</b>	<b>31.37%</b>	<b>117</b>	<b>39%</b>

\* N.R = Number of Respondents

**Table 6**  
**Major Social Security Programmes for the Marginalised Groups**

Sector	Scheme	Benefits	Beneficiaries
Health	Janani Suraksha Yojana (JSY)	Maternal benefits: medical help and care during delivery and '1400 for rural areas and 1000 for urban areas	Pregnant women from BPL families
	School Health Programme	Medical check-up and medicine	Students of primary and upper primary schools
	National Health Insurance Scheme	Hospitalisation coverage up to Rs. 30,000	Poor families

**Table 7**  
**Role of Rastriya Sam Vikas Yojana in the Tribal areas**

Objective	Implementation
Objective under RSVY	To increase institutional delivery, decrease IMR, MMR and improve the health care seeking behavior Of poor tribal people
Scheme under RSVY	1. Establishment of labour rooms in PHCs and CHCs 2. Attendant rest shed in SDH and DHH 3. Neonatal care unit in DHH
Funds (Rs in lakhs)	307
Output under RSVY	33 new labour rooms will be established in PHCs and CHCs 22 attendant rest sheds will be created in the referral hospitals of the district One neonatal care unit at DHH
Impact under RSVY	Increase in institutional delivery decrease in IMR, MMR and improvement in health care seeking behavior of tribal people because of increased access.

*Source:* Official Website of Mayurbhanj, Odisha

**Table 8**  
**Details of Projects to be taken in RSVY, under health sector**

1	Establishment of Attendants Rest sheds to promote institutional delivery. Total 11 units	At DHH, 5 such units@ Rs. 12 lakhs per unit At SDH, Karanjia, Rairangpur and Udala 2(two such unit each) x 3 = 6 units @ Rs.12 lakhs per unit	132.00
2	Labour rooms with water supply at different health institutions to promote institutional delivery and reduce IMR. Total 33 Units.	At 33 places in the district @ Rs 5.00 lakh each	165.00
3	Neonatal Care Centre at DHH to save newborn in critical cases.	At DHH, Baripada with estimated cost Rs. 10.00	10.00

Sub-Total: Rs.307.00 /- (Rupees three crores seven lakh only.)

*Source:* Official Website of Mayurbhanj, Odisha

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