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Food System And Well-Being Interventions For Tribal Health: An Observation From The State Of Odisha

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Abstract: ***The paper has been arranged in three sections. The first deals with the food system and well being interventions for tribal communities in India have been reviewed in section one. The second section describes the situation of the State and the third offers a descriptive analysis of the case study. The objective of the paper is to review the effectiveness of some of these interventions related to food and health status.***

Data have been collected from362 individuals however measurements could be taken from 269 subjects as our sample from two Blocks of West Odisha. The subjects include four age categories such as up to age 5, 6-10,11-18 and 18 -45 years. This sample survey was substantiated by case studies and observation. The anthropometric measurements were taken and clinical signs were observed to assess the protein calorie malnutrition (PCM).

On the basis of findings it suggests a few alternatives for effective well-being interventions. It was found that well-being interventions are operative since decades. Due to non accountability and the stubborn mindset of the developing personnel coupled with tribal adherent to belief system, the noble objectives fail to meet desired goal. Therefore, culture specific interventions based on priority of the communities' livelihood needs should be taken into confidence. Besides, the training components to contextualize the field level situation are essential and be inducted through holistic approach. The grassroots developing personnel need to undergo a series of training meticulously so that the well-being interventions are likely to yield better results.

Keywords: Tribe, anthropometric measurement, food and nutrition, ICDS, PCM, SC, ST

I. INTRODUCTION

The tribal people have historically remained subjected to injustice. Most of them live at the lap of nature for today. Since saving almost unknown to the tribal people they do not have tomorrow. The element of greed among them is hardly known. The food system and health status of tribal community reflect their ability to combine the cultural and biological endowments effectively with the ecosystem (Nair 2008). Their habitat determines their food basket and the greater the biodiversity they have in their habitat, greater is the food security they have (Samantaraya and Panda 2013). The loss of biodiversity due to exogenous reasons and the restriction imposed on the tribal to use forest resources that they traditionally used led them suffer a lot. They have been denied of their customary rights for various reasons wherein the State administration played a greater role. They have been victimized in frontiers like of de-recognition of ancestral knowledge of maintenance of their own habitat. This has been caused primarily due to the intervention of State administration in curving out Tiger project, mining operation, centauries for preservation of wild animals in their habitat and disallowed them to enter into the areas that hither to a part of their sources of livelihood. Their traditional skill has been subjected to pilferage by non-tribal extending their business link on forest items. They experienced the destruction of their livelihoods, drastic reduction of biodiversity and a fear psychosis to outsider resource exploiters. Around 40% of forest areas are being used for non forest purposes.

After many empirical studies among the tribal/indigenous people across the globe there are authors who are of opinion that there is still need for targeted strategies and policies that facilitate and foster Indigenous Peoples' use, processing and management of their natural resources for food security and

health through self-determination and autonomy. (These policies should be effective at the local, State, national, regional and international levels if they are to be successful; they should stress the importance of using cultural knowledge to develop health promotion activities and improve overall health (mental, emotional, spiritual, physical) and well-being. Englberger (2013)found it important to mention some of the cultural indicators for food security, food sovereignty and sustainable development according to Indigenous Peoples, in order to understand the importance of linkages between traditional knowledge and traditional foods: access to, security for, and integrity of lands, territories, natural resources, sacred sites and ceremonial areas used for traditional food production; abundance, scarcity and/or threats regarding traditional seeds, plant foods and medicines, food animals, and the cultural practices associated with their protection and survival; use and transmission of methods, knowledge, language, ceremonies, dances, prayers, oral histories, stories and songs related to traditional foods and subsistence practices, and the continued use of traditional foods in daily diets; the capacity of the tribal people for adaptability, resilience and/or restoration regarding traditional food use and production in response to changing conditions; ability of the tribal to exercise and implement their rights to promote their food sovereignty.

At the global level a few definitions on food system and food security have been widely accepted .Food security exists when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life" (.FAO, 1996). Similarly, food sovereignty is recognized as the "right of peoples to define their own policies and strategies for sustainable production, distribution, and consumption of food, with respect for their own cultures and their own systems of managing natural resources and rural areas", and is considered as a precondition for food security (International Indian Treaty Council, 2002).

In India, despite significant rise in the economy, health, infrastructure facilities, the tribal communities lag behind the national average. In view of poor health and hunger among the tribal population, the food system and well-being interventions have assumed the critical responsibilities for the Government. To have definite focus to the children, nursing and expectant mothers of tribal communities, the State and Central government have instituted many packages of services of well-being interventions.

The prime 'disease of the poor tribal communities' are the high level of chronic under-nutrition among the child and adult population, micronutrient malnutrition, anemia and iodine deficiency disorders. According to NFHS-3 47% of tribal women are having chronic energy deficiency (CED). As per the ICMR report while the national infant mortality rate is 57.0 among tribal it is 62.1 and under five the mortality rate is still high while it is 75.3 as the national average, among tribal communities it is 95.7.The tribal women with anemia remains 68.5 while the national average marks 55.3 (Kar 2012). At the national level about 25% of TB patients belong to tribal people and of them 15% are reported to be falciparum. Thus, it's suggested that community health intervention in improving the situation for tribal needs more attention (ibid). Emmel in an analytical paper stated that in defining a new strategy for achieving health for all in the 21st century the who has entirely moved away from the primary health care approach advocating instead vertical disease care programs and efficiency to cut the cost of equity. (1998). Dayal and Pennel pointed out that in the absence of improved living standards the present approach has produced large number of mere survivors, handicapped, by constant illness and incomplete recovery. Thus, the quality of people's lives was not considered (1998).

There has been focused approach to the health well being interventional development services to the mother and child such as supplementary nutrition programs, immunization, health check-up, referral service, nutrition and health education and preschool education. Besides there are schemes like national maternity benefit scheme, *Balika Samrudhi Yojana*, and information, education, and communication (IEC) and community mobilization component under integrated child development services (ICDS), *Kishori Saktiyojana*, *Swayangsidha Yojana* and implementation of project under national nutrition mission and the bicycle schemes for the girls. Monetary provisions like emergency obstetric care also extended to the tribal mothers The *Anganwadi* workers are responsible to implementation of 100% T.T. and immunization of pregnant mothers

II. ODISHA SITUATION

The geo-climatic condition of Odisha can be known from the following map that indicates the drought situation. Almost every year the coastal district face flood and the hinterland district suffer from drought. The hinterland Odiha is forested and has huge deposit of minerals and ores. This hilly forested area is the habitat of the tribal and forest dwelling communities. Odisha has been divided in three geo-climatic zones such as northern, southern and central. The zone wise tribal population and rate of poverty was assessed.

Source: image courtesy to https://sandrp.wordpress.com
Figure 1

III. TRIBAL SCENARIO OF THE STATE

The State of Odisha is rich in natural resources forest, mines and mineral. This State, unlike developed States, has earned a few notorious identities in the development scenario. In Odisha, being one of the backward States , has housed 62 scheduled tribal communities belonging broadly to six economic categories viz; food gathers and hunters, shifting

cultivators, settled agriculturalists, nomads, artisans and laborers in unorganized sectors .Scheduled area of the State covers 44.7% of the geographical area. An area specific subset of 13 tribal groups have been identified on the basis of parameters like declining or stagnant population across decades, low literacy, use of pre-agricultural technology, inhabiting inaccessible areas far away from available development infrastructure and shy in nature, as particularly vulnerable known as particularly vulnerable tribal groups (PVTGs) of the State population, the tribal shares 22.13% spread over 44% of the geographical area. Tribal development activities are governed through curved out 314 Blocks having 6000 *Panchayats* of which 118 are ear marked as tribal development blocks distributed in 12districts, 21 integrated tribal development agencies (ITDAs) with the support of State and Central Government plan to implement income generating schemes and infrastructure development, Projects on the roadmap: 17 micro projects to look into the development of PVTGs, 46 modified area development approach (MADA) pockets;

The seniors are the inventory of traditional knowledge system. Through the day-to-day activities of men and women in society that how the traditional knowledge of food and health management still exist without much dilution. This knowledge is expressed through stories, songs, folklore, proverbs, dances, myths, cultural values, beliefs, rituals, community laws, local language, agricultural practices, tools, materials, plant species and animal breeds. In essence, the natural environment is what makes the knowledge of each people unique and different from that of any other. The tribal people observe many rituals and rites to overcome the health problems. The belief among all tribal groups is that unlike death, sickness is a temporary detachment of life activities. The traditional healers who adopt magico-religious practices for diagnosis, and treatment are known by different local names such as *Gunia*, *ojha*, *bejuni*, *baid* etc. After proper propitiation to the spirits, treatment and care given to the sick, the healers through a ritual declares the person fit for community interaction (Panda 2012).Nevertheless, the tribal people still possess rich and diverse cultural knowledge, language, values, traditions, customs, symbolism, spirituality, forms of organization, standards of living, world views and conceptions of development. These components form the basis of their cultural heritage, and allow them to interact with and have a positive influence on economic, social and political dynamics of any country.

After independence Govt. of India have been trying to go for strategic economic development and realized that often such attempts lead to damage to forest biosphere and terrestrial landscape, submerged tribal habitat who have been forced to sacrifice their livelihood resources; restriction of traditional resources; deficient nutritional intake leading to poor health and nutrition, deterioration of affect important areas such as capacity to work and cognitive function in man and so on. Due to internal push and external pull factors the tribal families prefer migration, deserting their native kin based social security system. Thus, State government financial and manpower investment for the tribal health seem to provide a bleak picture. The development agencies take periodic assessment is made to identify the health needs and other survival needs under the leadership of responsible Government official.

IV. HEALTH AND EDUCATIONAL SERVICE SCENARIO OF THE STATE

The State administration has arranged ambulance to take the expected mothers to provide institutional delivery support to the nearby public health centre. The vehicle Number - 108 is available to reach nearer to the parents' residence. The *Asha Karmi*, *Anganwadi* workers are expected to help the needy and make the needy avail the facilities extended through *janani Surakhya* Scheme. Other heath care and food related logistic arrangements are also made by government or the tribal people. For educational upliftment there is distribution of bicycles to school going girls. The teaching is imparted in 10 tribal languages at the primary school level. Computer education program, supply of books and dress materials, free accommodation to the hostel inmates, award of Post-Matric scholarship are some of the inputs given for tribal development. The State has 8 higher secondary schools, 155 high schools, 91 Girls high schools. 112 *Ashrama* schools, two secondary teachers training schools, 1031 residential Sevashrama,1548 primary school hostels in ITDA blocks ,400 primary school hostels for ST girls and 1003 ST girls hostels .The food and health related services are extended to all such institutions as a part of welfare activities.

V. HEATH SERVICE RELATED SCHEMES

There were many healthy related schemes operative in the State. In order to have definite focus to the development of services for children under six, nursing mother and expectant mothers of all communities some service oriented packages are being provided such as supplementary nutrition program for children, nursing and expectant mothers. Immunization programs to prevent them from diphtheria, whooping cough, tetanus, polio, tuberculosis, diarrhea, measles, malaria, filarial, keratomalacia and anemia; immunization programs are being implanted with the cooperation of medical and ICDS staff., health check-up, referral services nutrition and health education and preschool education. Besides these, Government initiated a few activities to address various needs of the identified adolescent girls in the State. The major well being interventions for adolescent girls revolves around nutrition and health, non-formal education, vocational education, self employment income generation and improvement of social status in rural areas and urban slums. Besides, the education on menstrual hygiene has become one of the vital teachings of well-being interventions.

VI. FINANCIAL SUPPORT FOR TRIBAL DEVELOPMENT

Financial supports for tribal development; On the basis of demographic the money gets sanctioned for the tribal development. Apart from many constitutional mandates for

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Scheduled tribes, there are a few special provisions to empower the tribal people. Besides, under Article 275(1) of the constitution fund flow is made to the State from Centre exclusively to be used in favor of the Particularly Vulnerable Tribal Groups (PVTGs) upliftment. There is a fund flow from Central Government under Central Special Assistance (CSA) to Tribal Sub-plan (TSP) Areas and at the Micro Project areas it is being administered by a special officer under the span of control of the commissioner for SC and ST who is expected to look after the all round development of the PVTGs. Odisha ST and SC Development Finance Cooperative Corporation has taken responsibility of raising socio-economic conditions of ST and SC. There is a fund flow from centre for the PVTGs for their all round development comes from Special Central Assistance (SCA), Tribal Sub-Plan under Art 275 (1), State plan, Non-plan, Centrally sponsored schemes and revised long-term action plan (RLTAP) for Kalahandi, Balangir and Koraput (KBK) area are some of the financial supports extended. Other approaches are Odisha Tribal Empowerment and Livelihood Programs (OTELP), Tribal Development Cooperative Corporation of Orissa Ltd (TDCCL) and Dispersed Tribal Development Programs (DTDP). There are stimulants of and barriers to the development interventions due to the religious beliefs and socio-cultural taboos. The indigenous knowledge system has lot of potentialities in fostering the well-being interventions. Co-option of traditional healers into the fold of well-being intervention in health management has proved worthy. Tribal villages are covered under *Indira Awas Yojana*, *Mo Kudia*, *Antodaya Yojana*, BPL, Old age/Widow Pension scheme and PDS Centers which are located at 3-8 Kms from the villages of the MGNREGS card holders The 73rd amendment promulgation of Panchayat Extension to Scheduled Areas (PESA ACT 1996), Immoral Trafficking Prevention Act 1956 amended in 1986, the Equal Pay Act 1976 creation of separate Department WCD created in 1985, Education guarantee

The hinterland districts, mostly tribal inhabited areas, experienced a severe drought in every seven years. These districts are being targeted by the corporate world for extraction of ores and there by the surface mining operation denudates the forest area as a result the food basket of the tribal people from natural resources declined. The water crises across decades intensified. Many tube well / bore well dug by government do not work. During lean season they depend on the unhygienic sources of water for all purposes. The sanitation level is very poor. Open defecation is a practice with all the tribal communities. Children were observed to suffer from visible skin diseases like scabies. Many children were observed suffering from Marasmus and Kwashiorkor indicating malnutrition. Anemia and Odema were also observed among tribal women. The dilapidation of health infrastructure with no physician and medicine in hill villages was marked. Data on immunization against six preventable diseases: Tuberculosis, Diphtheria, Whooping Cough (Pertussis), Tetanus, Polio and Measles was collected Administration of Vitamin A, Iron and Folic Acid supplements, Vitamin-A dosing for children (9months–5 years) every six months is the method used for ensuring that children at risk are protected from developing Vitamin-A deficiency. Iron and Folic Acid tablet / syrup were administered to the children (6-35 months). Ante-natal check-ups (ANC) including type of tests performed during ANC besides number of Tetanus Toxoid injections administered and number of days of consumption of IFA supplements were enquired. Delivery care, place of delivery, source of transport provided, length of stay after delivery, type of delivery (normal/caesarean/assisted) and the personnel conducting delivery in case of domiciliary births, home delivery and assistance from trained personnel (*dhai)* were enquired .A regard the postnatal care percentage of mothers who received post-natal check-up within 48 hours of delivery, percentage of mothers who received post-natal check-up within one week of delivery and percentage of mothers who did not receive any Post-natal check-up were observed. Financial assistance under *Janani Suraksha Yojana* sponsored by the Central Government was extended to all mothers.

VII. GENERAL OBSERVATION BASED ON SECONDARY SOURCES

Children were observed to suffer from visible skin diseases like scabies. Many children were observed suffering from Marasmus and Kwashiorkor indicating malnutrition. Anemia and Odema were also observed among tribal women. The Dilapidation of health infrastructure with no physician and medicine in hill villages was marked. There are government provisions for well being intervention in heath frontiers. Data on immunization against six preventable diseases: Tuberculosis, Diphtheria, Whooping Cough (Pertussis), Tetanus, Polio and Measles was collected Administration of Vitamin A, Iron and Folic Acid supplements, Vitamin-A dosing for children (9months –5 years) every six months is the method used for ensuring that children at risk are protected from developing Vitamin-A deficiency. Iron and Folic Acid tablet / syrup were administered to the children (6-35 months). Ante-natal check-ups (ANC) including type of tests performed during ANC besides number of Tetanus Toxoid injections administered and number of days of consumption of IFA supplements were enquired. Delivery care, place of delivery, source of transport provided, length of stay after delivery, type of delivery (normal/caesarean/assisted) and the personnel conducting delivery in caseof domiciliary births, home delivery and assistance from trained personnel (*dhai)* were enquired .A regard the postnatal care percentage of mothers who received post-natal check-up within 48 hours of delivery, percentage of mothers who received post-natal check-up within one week of delivery and percentage of mothers who did not receive any Post-natal check-up were observed. Financial assistance under *Janani Suraksha Yojana* also extended to the mother. This is sponsored by the Central Government. One of the biggest threats in Odisha's tribal districts are the appearance of encephalitis, and malnutrition in tribal district like Malkangiri and the tribal people inhabiting the forest areas of Jajpur district that was highlighted in print and visual media and assumed a political jingle.

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Figure 2: 2016: death of 19 children in 3-4 months in Nagada, Odisha's Jajpur district

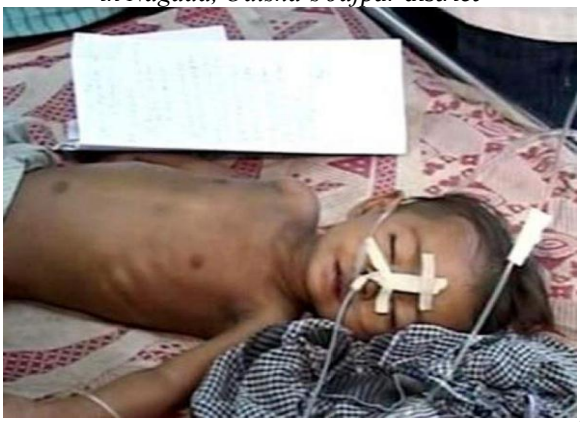
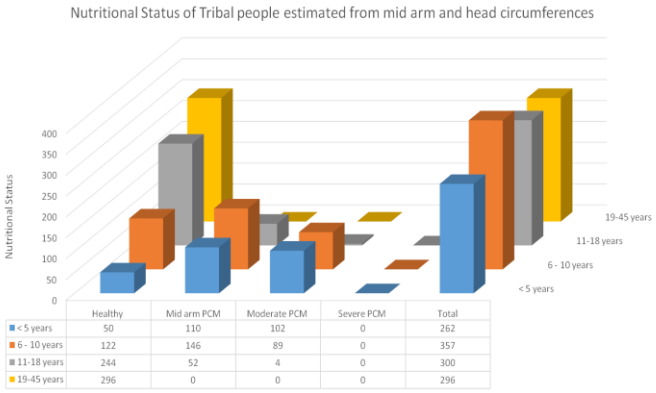


Figure 3: 2016: death of >60 children in 6 weeks in Malkangiri district

VIII. CASE STUDY AND THE METHODS ADOPTED

Data were collected from Koira and Hemgiri Blocks of Sundargarh district situated in west part of Odisha. Soil in the both the tribal blocks is not fertile. The lateritic soil is predominant Blocks considered for the study: Koira Block (51592 persons: M-26070, F-25522) and Hemgiri Block (35513 persons: M-17928, F- 17585) Tribes inhabit in this area are Gond, Bhunya, KisanKhadia, Oraom, Munda, SoaraKondh, Ho and a few family of Birhor inhabit fro who the sample was drawn . Among them Gonds, Bhunya and the Kisan outnumbered the rest tribes. Care was taken that the ethnic groups are equally represented. A total of 362 households with a population of 2038 having 937 male and 1104 female were covered. This includes the four age categories such as up to 5 years, 6-10, 11-18 and 19-45 years. The sample includes potential and productive human resources. Of the 362 samples anthropometric measurements (height, weight, head circumferences, chest circumference bisep and trisep) and somatoscopic observations could be taken on only 296 subjects only. The clinical signs were also observed. The availability of the subjects in the field was a problem. The anthropometric measurements were taken to evaluate the nutritional status of the sample. The following fig shows the nutritional status of the mother and child.



	Healthy	Mid arm PCM	Moderate PCM	Severe PCM	Total
< 5 years	50	110	102	0	262
6 - 10 years	122	146	89	0	357
11-18 years	244	52	4	0	300
19-45 years	296	0	0	0	296

Figure 4

IX. DISCUSSION

Recently there was a blame game between the political parties on tribal health issue. The tall claims made by state administration seem to be on pen and paper as health conditions among the tribal people was found alarming. In fact, B. D. Sharma the then commissioner, Ministry of tribal affairs, Govt of Indi in his radical writing rightly stated that India has unbroken history and broken promises (2001). Aptly this can be figured through above photographs. It was observed that current dietaries of the poor segment of population in different parts of India are highly unsatisfactory and uncertain. The economic factors and cultural practices are important causes of such poor diet for faulty feeding habits. To honor the Right to Food Act and the constitutional obligations - the State administration must document and analyze the disaggregate population data, data on biosphere of the micro ecology .Habitat of every individual tribal group by culture and geographic location, to explore the circumstances faced by tribal peoples in their native areas for water, food, Sanitation and hygiene. Reasonable and meaningful action is the need of the day to promote equality in food and nutrition security and well-being and there by honor the act of the constitution that deals with right to food and nutrition.

X. CONCLUSION

For tribal people whose food systems are based on forest, agricultural production, hunting and fishing have changed drastically due to mining operation and development of infrastructure for modernization and industrialization. Many tribal resource management systems were sound and sustainable. With cooperation from government and NGOs, the existing resources can be better managed. The case study revealed that illiteracy affect people's coping mechanism with rapid changes in environment. The market driven food does not have wide variety as it was available when the forest was thick. Tribal people mainly depend on their own collection and production and wages they earn from informal sectors of economic transactions. Food scarcity pushes the tribal to distress migration in search of a living. Participatory research that would give importance to the life priorities of the tribal

communities is likely to yield better health development intervention out puts. For this insider's view of tribal community is more important.

XI. SUGGESTIONS

The State administration should take initiative such that the biodiversity in the tribal areas does not decline. Action on conservation becomes inhabitable. Development interventions should be inclusive and holistic in approach. Constant and continuous effort of developing agencies on health awareness campaign at the grassroots with culture specific approaches must beget demand from within the community for accessibility to health infrastructure. Lack of follow up action pull the tribal back to the dependable syndrome. Accountability and transparency of the personnel involved in development intervention programs with compatible preaching and practice need to be convergent in orientation. The priority of the tribal people should not be ignored before an intervention, else the program will clash with their culture. These personnel must change their mind set in favor of the tribal and need not fell themselves as donors/saviors .Reduction of corporate greed in exploiting natural resources would yield sustainable biodiversity in the area and thus greater is the biodiversity better is the availability of food and nutrition for the tribal people. Safe drinking water, improved sanitation and hygiene can save the vulnerable groups effectively. The PDS may be taken as supportive agent to meet food and nutrition scarcity. As regards the policy potentials, for food and nutrition the current problem among tribal people in Odisha can be tackled for better health. Due to multiplicity of problem in terms of socio economic composition and habitation the methods to tackle the ir health problems should not only be multifold but culture specific and area specific. Therefore health awareness campaign in native language with their typical popular cultural events may be viewed as feasible alternatives. There has been a growing body of knowledge on the health needs of the tribal people on our nation. However there is a paucity o data on how we can address these needs. The ICMR's during 2010 had established a Tribal Health Research Forum (THRF) which has no gone to the expected level. The home scientists who have training on food system with fieldwork training could be useful.

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