



Full Length Research Article

**DAM INDUCED DEVELOPMENT- A STUDY OF MAHI BAJAJ SAGAR PROJECT IN BANSWARA,
RAJASTHAN (INDIA)**

***Shreejaya Sudheeran Jayaraj**

92-D, Pocket -2, DDA Flats, Sector-6, Dwarka, New Delhi-110075, India

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ABSTRACT

The present research study elucidates on some socio-economic implications of Mahi dam project in the tribal district Banswara of Rajasthan (India). The dam induced impact should be assessed and addressed accordingly for the development of the larger marginalised groups like tribal population of India. The research study carried out with the indigenous Adivasi people Bheel, Meena, Maida, Charpota, Garasia and Kataria tribes of dam irrigated areas that are in the process of witnessing later effect of dam construction. Sum of 60 cases were taken purposively in the form of in-depth interviews, questionnaires and historical narratives. Researcher also conducted two FGD's to explore more variable of social determinants of development in the region as post effect of dam construction. The paper also contributes the field notes and observations taken from the study area.

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INTRODUCTION

The word 'dams' has always two development perspectives—both for and against them. Yet, dams are not a technology that can be ignored on the basis of firm against voices. Examples are drawn from several World Bank-financed projects for purposes of illustration where the bank made a major attempt to build project authority capacity sufficient to implement bank guidelines. Nonetheless, in such large projects as India's Sardar Sarovar and Argentina Paraguay's Yacyreta, resettlement "is adversely affected by failures to assign key staff" with bank supervision in each case finding "at one point or another...staffing to be half or less than agreed levels" (World Bank, 1994 and Scudder, 2002). The dam and irrigation give the scope for the sustainable development of the people and the nation. The three main aims of sustainable development are to improve economic, environmental and social conditions (Munasinghe, 1993). Dam caters services like water, electricity, agriculture, and flood management etc. During the 20th century, large dams emerged as one of the most significant and visible tools for the management of water resources. The more than 45,000 large dams around the world have played an important role in helping communities and

economies connected with water resources for food production, energy generation, flood control and domestic use. Current estimates suggest that some 30– 40% of irrigated land worldwide i.e. 271 million hectares now relies on dams and that dams generate 19% of world electricity. Dams are viewed as symbols of modernisation and humanity's ability to harness nature, the dam construction accelerated dramatically.

This trend peaked in the 1970s, when on average two or three large dams were commissioned each day somewhere in the world. Large dam construction is the predominant form of public investment in irrigation in India. Between 1950 and 1993, India was the single largest beneficiary of World Bank lending for irrigation (World Bank, 2002). Mahi dam is also one outcome of the pace modernisation envisioned through for the development of the indigenous people of Banswara region in Rajasthan. Mahi dam provides potential opportunity to study and understand the long term implication of the public policy framed for the development of indigenous Adivasi's who completely relied on natural resources. It is important to study the importance of water resource management from both point of view – gain and lose when world is divided into the debate of development and developing. As United States is on edge of removing dams for development, it is essential to study present scenario of progress of remote areas which are far away from the glory of development. It is also important to explore the effects of dam induced development as developed

***Corresponding author: Shreejaya Sudheeran Jayaraj**
92-D, Pocket -2, DDA Flats, Sector-6, Dwarka, New Delhi-110075,
India

and developing countries are apparently different in its features. India being a country of diversity needed to look at development aspect through different lens. Banswara district comes under 'Wagar' region an area where group of people share same ethnicity with same dialect 'wagari' and their common practices of custom and traditions. The district is predominant of tribal population, who bring ethnicity in the present generations as well.

Review of Literature

The review of literature explores major interdisciplinary report, downstream impact study of the ongoing Subansiri Lower Hydroelectric Power Project, published in early 2011 explores various geographical aspects of dam development and possible threats in north eastern region due to construction of mega dams, as it pertains to seismic zone five which is the very danger in terms of earthquake probability. Before getting into development challenges it is important to define indigenous people-The International Labour Organisation (ILO) convention 1969, concerning indigenous and tribal peoples in independent countries, defines indigenous peoples as peoples whom:

...on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.

The scheduled tribes are specified by the President under Article 342 (i) of the Constitution of India by public notification, the Parliament may, by law, include or exclude from the list of scheduled tribes any tribal community or part thereof in any state or union territory. Notwithstanding the confusion pertaining to the definition of tribe and their estimation and inclusion in the list of scheduled tribes, for all practical and theoretical purposes, be that legislation, social or political intervention or collection of data for social science research, the 'schedule of tribes' notified by the government of India remains the crucial referent. Accordingly, in the context of the present study 'tribe' or 'tribal' has been understood as those communities or groups, which have been included in the list of scheduled tribes as per the provisions of Indian Constitution. Historically, indigenous people have suffered from colonisation, born the impact of policies seeking to assimilate them into the dominant population, suffered significantly from the effects of environmental degradation, armed conflict and the application of a western development models.

According to Sarbeswar Sahoo's writings on tribal identity, data shows Rajasthan is geographically the largest state of India and has a significant tribal population. The southern part of the state is heavily concentrated by the Bhil tribes who comprise 39% of the state's tribal population. In the Banswara district more than half of the population is tribal and all blocks (administrative set of villages) dominated of communities. Bhils mainly reside in the hilly regions. The primary sources of their livelihood are shifting cultivation, hunting and collection of forest produce. During feudal rule in Rajasthan, the tribals were heavily exploited as bonded labourers. With

the arrival of the British, the Bhils were classified as a violent 'criminal tribe' and their right to use the forest became heavily restricted, which continued even after independence. Development of the tribes from a sociological perspective, Sharma and Doshi argued, among other things, for the creation of a tribal will for carrying out developmental activities, They observed that a liberal subsidy or grant of loan by the government or any other financial institutions generates a spirit of dependency among the tribals, which is not conducive to attain self-sufficiency, for the matter the concept of sustainable development needed to be introduced. In addition to this, due to the hierarchical structure of public administration, alarming bureaucratic corruption and huge networks of patron-client relationship, the fruits of developmental planning have not reached the tribal society. The tribal populations of Rajasthan suffer from widespread poverty and marginalisation and are deprived of citizenship and welfare entitlements. In 1981, 54.16% and 1991, 44.73% of Rajasthan's population lived below poverty line, where a majority of them are tribals. The state also suffers from regular draughts accompanied by inevitable scarcities of jobs and food, resulting in acute hunger, malnutrition and disease. The tribals also perform miserably in many of the socio-economic indicators. Illiteracy is very high; life expectancy is very low; and infant and maternal mortality rates among the tribals are very high. All these factors have combined to cause not only economic deprivation but also political powerlessness.

In India the concept of development emerged followed socialist inspired policies for states in independent India. As India had agrarian characteristics which lead perspective in many policy makers to reform agriculture sector. Pundit Nehru, the first prime minister of India, defined the dams as "the modern temples of India" (Richardson, 1995). As management of water resources have critical implications for people's lives and livelihoods, for overall economic development and for social prosperity. Social theories of justice, equity and fairness underscore the need for ensuring social justice in water resource management (Syme *et al.*, 1999; Tisdell, 2003). The equity concept implies protection of water rights and access to safe drinking water, which is a basic human need. According to Phansalkar (2007), equity in access to and use of water and the distribution of the impacts of water resource development intervention have four elements:

- (1) Social equity: equity between different groups of people living in the same location.
- (2) Spatial equity: equity between people living in different regions. (Saleth and Dinar, 2004).
- (3) Gender equity: equity between men and women in sharing labor costs, efforts to access and use water, and its benefits.
- (4) Inter-generational equity: equity in enjoyment of natural resources, including water, across generations of people. (Divan and Rosencranz, 2005).

Talking and exploring other terms of development it is important to understand various theories and models in the light dam construction in the rural-remote area of aravali lanes of Banswara. Modernization stepped into many indigenous of Banswara's agrarian society by starting construction of Mahi Bajaj Sagar project in the 70's. From then tribal populace of Banswara were introduced by the western development

perspective of development. This part of review of literature will explore the idea of development linked with dam in the area. This part will review the transition in the social system by cultural perspective approach. The study wholly focus on the rural setting with the tribal's of the Banswara district. Although there is an abundance of literature on Euro-centric perspectives of development there is insufficient research on development of indigenous specifically due to dam and change in social determinants from the perspectives of indigenous people (Liebenstein, 2000; Plant, 1998; United Nations, 2003; Zimbabwe Congress of Trade Unions, 1995). There is a huge gap about indigenous people's life at grassroots levels. Very little is known about how indigenous rural people manage resources as they attempt to shape their own world socially, politically and economically (Marariki, 1995). The gap should be understood in terms of the existing barriers to communicate, when grass-roots communities speak, their language is not understood by researchers, policy makers or administrators. Neither does the community understand the language of the latter.

Background

“Mahi” a river which originates from the Sardarpura village of the Dhar district in the Madhya Pradesh and it's stream run through in states Madhya Pradesh, Rajasthan and Gujarat and finally go with ‘Khambat ki Khadi’ (bay of Khambat) in the Gujarat. In Rajasthan the stream of ‘mahī’ used to be silent during the summer and winter but in raining time it created huge panic for many people due to flood situation in the basin areas before constructing of the dam. From water potential point of view, the Mahi river basin is the third largest among fifteen well defined and discriminated river basins of Rajasthan state. Rivers Erav, Chap, Nori, Anas, Jakham, Some are major tributaries of river Mahi. The original project proposal envisages 46,500 ha. CCA approved by the Planning Commission and Central Water & Power Commission in the year 1971. The major construction activities started in the year 1972 and completed in the year 1983. The dam construction is outcome of the bilateral agreement between Gujarat and Rajasthan looking in view upon sharing of water, cost of construction and future welfare of mankind through various programs and projects.

- iii) Non Agriculture Land 2010-11. Hectare “62977
- v) Cultivable Barren land 2010-11. Hectare “224605

Between 1951 and 2000, food grain production in India nearly quadrupled, with two-thirds of this increase coming from irrigated areas (Thakkar, 2000). While dams account for 38 percent of India's irrigated area, estimates of what fraction of the increase in production can be attributed to dams vary from 10 percent (World Commission on Dams, 2000) to over 50 percent (Gopalakrishnan, 2000). The data specific to this region is not available, study further step towards the socio-economic impact due to the project and will explore the various dimensions of improvement in individual life, education and health and women status and role as indirect impact of the water resource. It is fundamental for the dam projet designed as development projects, to be designed as human centred. To meet humanitarian needs and expectations is at the centre of the term of sustainable development. Constructing dams for irrigation, energy production, and flood control generally requires big scale usage of technology and engineering. However, the success of dam projects is not solely depending on technology and engineering structure. In addition to these, it depends also on the solution of soils, water's and people's problems (Parlak, 2005).

Objectives of the study

1. To study the socio-economic and cultural milieu of the indigenous people of Katiyor and Kherdabra villages of Wagar region.
2. To study the post effect transition of dam construction on women's life.
3. To understand the relation between social determinants and dam induced development

MATERIALS AND METHODS

The impact on life due to the major water resource construction can be judged by their effect on generations. For the purpose researcher designed research study including field observations to understand the present socio-economic condition, questionnaire on quality of life and historical narratives to understand the change process. The research

Some technical facts and figures of Mahi Bajaj Sagar Dam

Attribute	Value	Attribute	Value
Name of the Dam	Mahi Bajaj Sagar Dam	Minimum Draw Down Level (MDDL)(m)	259
Nearest City	Banswara	Gross Storage Capacity (MCM)	2180.33
District	Banswara	Live storage capacity (MCM)	1711.75
State	Rajasthan	Design Flood (cumec)	25598.43
River Name	Mahi	Type of Spillway	Ogee
Basin	Mahi	Length of Spillway (m)	300
Type of Dam	Earthen + Gravity	Type of Spillway Gates	Radial
Purpose of Dam	Multi-Purpose, Irrigation	Number of Spillway Gates	16
Year of Completion	1985	Size of Spillway Gates (m*m)	50'x43'
Catchment Area (Th ha)	6149	Land affected- Total (Th ha)	---
Length of Dam (m)	3109	Land affected- Culturable (Th ha)	---
Maximum Height above foundation (m)	74.5	Land Affected- Forest (Th ha)	---
Maximum Water Level (m)	---	Land Affected- Others (Th ha)	---
Full Reservoir Level (m)	280.75	Number of Villages Affected	98
Number of the families affected- SC	Data not available	Number of the families affected- Total	6975
Number of the families affected- ST	Data not available		

Source- Water resource management system, Government of India

Banswara District Agriculture Profile

- i) Total Area 2010-11. Hectare 3164647
- ii) Forest cover 2010-11. Hectare “91200

followed an ethnographic design. The ethnographic designs are qualitative research procedures for describing, analyzing, and interpreting a cultural group's shared patterns of behavior,

beliefs, and language that develop over time"(Creswell, 2002). The study followed ethnographic design where the researcher reports on what is observed or heard from participants and produces participant views through edited quotations. It gives hands on experience of researcher's life spent in the region and some very important observations done during the field visits in the study area. (Marshall and Rossman, 1989) define observation as "the systematic description of events, behaviors, and artefacts in the social setting chosen for study". The study will bring into notice about various factors contributing to present socio economic condition due to dam defined development and change. This study evolves various ethnographic techniques such as observations, conversation and in depth interviews with 20 indigenous people from the Katiyor and Kherdabra villages. Standard guidelines were followed when collecting the ethnographic data. Historical narratives were also taken from 20 elderly people of aged more than 60 and less than 68. These historical narratives contributed to frame the events and its post effects in their own wordings.

Sample

1.	In depth interview	20
2.	Questionnaire	20
3.	Focus Group Discussion	2
4.	Document Reviews	As required for each field visit
5.	Historical Narratives	20
6.	Field Visits	12

Data Collection and Analysis

Research carried out between 2008 and 2013 with a purpose of understanding strategies of planning and policy approaches used for tribal development. Four main stages were

- Understanding present tribal development and deprivation situation
- Determining the process of development and induced factors
- Looking back into historical milieu related to tribal life
- Developing resources for future planning system

Formal data collection was focused on:

- 1) document reviews,
- 2) observations,
- 3) conversations, and
- 4) in-depth interviewing.

Text Analysis, Thematic Coding and Personal Reflection interpretations techniques used for data analyzing and interpreting. Researcher collected the data as it was feasible with the situation, manytime availability of the respondent and participant needed to scheduled accordingly, historical narratives can't be made limiting with the time schedule, as it goes with the flow of the participants experience sharing and also interruptions or rescheduling may result varied emotional change in narration. The data collection time with tribal people in village were much accommodative in late evenings, during chopal time and at their work place when they take small breaks at graze yards and farms. Visiting and observing the hard work and the hardship gives more reflective analysis of the narrations rather visualizing it. Two main areas under

discussion were included –the present dam induced socio economic condition and women's situation and past scenario before construction of dam. The researcher fixed sub themes like ethnic and ethnicity, family structure, food, education, housing, health, employment, women's status and existing norms.

Theme	Sub themes	Outcome
Dam induced socio economic condition and women's situation	Irrigation water, Farming and dependency, Food, Housing, Children, Health, Education, Transportation and mobility, Small business and vendor, Women's role and participation, Change norms	Connected to development, paradigm shift in progress, link to mordenization, generations are witnessing new dimension of life, change in ethnic identity, sanskritization
Past scenario before construction of dam	Irrigation water, Farming and dependency, Food, Housing, Children, Health, Education, Transportation and mobility, Small business and vendor, Women's role and participation, Change norms	Starvation, misinterpretation of ethnic identity, forced to steal, debt of Baniya, rain water depended farming, migration, women's condition, worse economic condition led to affect right to access services

RESULTS AND DISCUSSION

Historical Narratives (An effort to understand past)

During the field visits to Dam irrigates areas of the Banswara District in Rajasthan state, researcher recorded historical narratives of the indigenous people of the age above 70 years to understand the past scenario of the region and their lives in the given situation. Historical narratives given effectiveness in the qualitative inquiry of the research study which than coded and analysed to assess the situation. Here given few extracts of historical narratives-

Puraana manaka jeevan ghano mushkil tho. Paani barubar pade toh anaaj paake, wadu pade toh hattu vagada kari naake. Deem (dam) nath etoh toh paani padyu nathne paani maa hitoh gaon doob jaatu...akho sab karab thai jaa..phasal, maveshi, ghar, manak sab bai je..hitto naash karino jaayi passé wer vaat jotoh..ani wer kai thai jaa..vaaniya seth thaki vyajna khaato..hitto vesai jaa... (Manki Bai, female-76 years)

Earlier people's lives were very miserable. It was completely depend on monsoon, if it falls more than average than all crops get destroyed due to the flood situation in the villages (when dam was not constructed), all human, cattle, crops, houses all wiped away in flood. And there are times when the whole monsoon season goes dry without any rains. These situations also make us to borrow money from *baniya seth* (merchants) which later through cyclic process lead to sell everything belongs to the person.

Amaar baiyru mari jaatu vanaa dava daaru male thaki.. deem (dam) avaya thaki Dakhaana khuligya..pele manakane

khaatle uppare naakine shyaar manke sher naa dhaakhaane le jaite...arde raste mari jaato..khanaa manak marigya wagar davano..khano madad thaiygu...(Bhura Bhai, male-70)

Our women used to die without getting the health services. The dam construction brought the change and opened hospital facility near only. Earlier four people use to take the ill people on a *khatiya* (wooden four leg bed), might the experience of the ill person's death on half of the way.

Baiuraannu jeevan toh narak attu... paani aavya thaki jeevan maa sukh aavyo...(Lassi, female-76)

Women's life was more of a like hell. Whole there day they used to spent in arranging water resources for their life.

Deem aavathakki ammar sora sorinu jeevan badligu...bhanavaanu lakvano moko malyu...(Rakma, male-80)

Dam brought positive changes in the life of our children. They got opportunity of education and learning after construction of dam.

Vaaniya amaar jeevanro abhishaap tho.. kisaanro jeevan enra haathma tho..veej khatar balle paishya udhar leto ine hitto jeevan vyaajupper paisa deve ma nikkri jaato..deem vanya thakki baar thakki manakka aavine reva laagya..ammar manka ma dhodi khabar padva laagi...bhanava laakva lagigya...(Khaatu ma, female-78 years)

Baniya (merchants) used to be our curse. Farmers' lives were completely in their hands. Loans taking for seeds and fertilisers put them into the cyclic debt process till their death. Dam construction created situation where people from outside started migrating to our place and our knowledge and understanding developed towards exploitation done by these merchants. Our people started educated (which made us to lead a good life).

Facets of Tribal Marginality

The development measures of before the dam construction situation can be analyzed through following thematic areas-

1. Ethnicity and cultural identity
2. Development and Women Empowerment
3. Changing Landscape of health and changes in lives of indigenous

Ethnicity and cultural identity

After doing a profound study to collect data to understand the present socio-economic condition researcher able to depict some present characteristics of the adivasi tribes of wagar region. The adivasi people of the 'wagar' region are known as Bheel's. Considering different factors of classifications of tribes, the indigenous adivasi of the area pertain to cultivating category of tribe (Raha et. al, 2001). Bheel community has various caste surnames which includes Garasia, Maida, Meena, Charpota, Kataria and other nomenclatures. The Bheel communities often located at the bank of rivers, near to ponds, cultivable lands or and in forest. The present situation of their locality getting changed, Bheel's have been started moving to

isolated place to dense populous places. The indigenous people have had been witnessing mordenization and sanskritization as the other population also moving to these locality for business and other purposes. Sanskritization allowed the indigenous to impersonate the culture of the advance society, like learnt of to cover upper body of the women in front of the outside world. Some of the community women take bath in open at the river side. But the ethnic culture has been modified so fast now the community has even lost their ethnicity in the traditional names of the people. Men in the community have had their names like Lasiya, Khaliya, Ravji, Ramtu for older generation now people have names like Kishan, Ramu, Heera for new generation and also some has names which are very common among all advanced strata's and an example of sankritization. Earlier there was no or very less trend of having surnames. The indigenous people use to be collectively known as Bheels and local people epithet them 'Maama's which is the form of atrociting the indigenous by advance communities. The communication mediums through the dam construction whether it's been the moved in population for the dam construction being the mediocre, interaction outside the community and the education.

Table 1. Some practices of indigenous people of Wagar Region

<p>Natra – A system of informal marriage establishment where man and woman start living together after their past wedlock. Women has to pay back the amount paid by the earlier groom's family to her family in the presence of <i>Panch</i> (village representatives) to have <i>natra</i> with other man</p> <p>Notra- Invitation for huge lunch, all villagers and adjacent villagers invited for the common <i>jeeman</i> (lunch) for marriage ceremony, death and other occasions.</p> <p>Dhoond- A ritual performed on <i>Holika dahan</i> for longetivity for the new born child (specifically the male child by his maternal uncle by taking turns around the holy fire) again followed by <i>jeeman</i> to villagers and relatives</p> <p>Gair- A traditional dance form, performed during 'holi' festival by male members of adivasi community at various <i>chowks</i> in village on the beats of <i>dholak</i> in high influence of alcohol</p> <p>Bhopa- Jhada Karana- It's a way to get rid of evil soul from body of diseased man, as it is assumed that all diseased caused due to the effect of bad evil.</p> <p>Beneswar Mela- The fair (Beneswar mela) is organized at the delta formed by rivers Mahi, Som and Jakham. The fair is five days colorful affair continues till Shukla purnima of Magh mas (hindi month). This day and night fair allows many adivasi young male and female to find their life partner and know each other.</p> <p>Katta- A ritual performed after death by offering feast to a large scale to relatives, villagers and nearby villagers.</p> <p>Mahudi- A local flower mahuwa fermented to produce the alcoholic drink <i>mahudi</i>, country liquor. Tribals of Bastar in Chattisgarh and Orissa, Santhals of Santhal Paraganas (Jharkhand) and tribals of North Maharashtra also consider the tree and the <i>mahuwa</i> drink as part of their cultural heritage</p>
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Changes in Family

The ethnic tribal adivasi family use to be larger in size like having 10-12 children were very common, a women used to reproduce throughout her reproduction cycle (as in the community have many example of conceiving and giving birth by daughter and mother at same phase even grandma and granddaughter . Now most of are using family planning options to keep the family size smaller. But yet it's not the small (the two children norm). The practice exist was the elder one were used to take care of the younger siblings and domestic affairs and the elder one's also participated in the agriculture activities with their parents. Very less percentage of couples have two children. Still huge proportion of the

community believes increased number of children gives economic stability to family. Family constitutes how- hara (mother in law father in law), lugai- admi (wife and husband), sora- sori (male child and female child). The community believes in the joint family structure till their tapara's (the raw house) accommodates every one. Family disorganisation also takes place but also have a system of integrating by community norms. It is analysed for the change in the family size by researcher are availability of information, education and communication by ASHA's worker, ANM's and health workers. Also the advanced society influencing gradually on their decisions of having bigger family. Tubectomy opted by women for not having children and for spacing Copper-T too used by small percent of the Adivasi community. People are some extend are aware of the family planning due one reason is the cash given after the TT process by government. Vesectomy is not very popular among men due to the myth wrapped- Nasbandi means nas (the vain) to be tied means the chances of being impotent though the vain has been removed then one is no more will be "man" and able to indulge in the sexual practices. People have reach to health centers within the peripheri of 20 kilometers).

Changes observed in education and food habits

Adivasi community consumes corn flour bread (makki ki roti) as their staple food with onion and green chilli. Very lees percentage of family has the habit and the economic strength (capacity) of having wheat flour, vegetables and pulses as regular part of their food even though they are biggest human resource for cultivating all cereals and vegetables. It is explored that after dam construction lives of these indigenous had greatly implicated as now their plenty of food grains exist in the most household due to the sufficient availability of irrigation water. The irrigation water created agriculture a boom with a very positive impact on indigenous people, now the debt burden of the peasants. Through the study researcher evidenced that now a days the younger children are going to school (some cases shows that after joining school they leave the education process after getting school uniform and money of social security scheme because young age group children used to take care the cattle folks in the nearby grazing yards, as this work is time consuming and need very less hard work). Undoubtedly mid day meel scheme given a way out to think parents to enrol the children with education system, yet many are still out of this course.

The benefited few are getting opportunity to raise the standard of living within the community settings and marking inspirations for the others. The right to education has its impact on indigenous people and change in the new generation. The researcher analysed Mahi Dam project as tool for change in the education scenario, as when the project construction started many of them able to get employment on daily wages which made them come out from the uncertainty of agriculture success which lead a way to send children to schools. Government also taken initiative by starting schools near to project with encompassing vision of targeting the employees of the project who were educated mass which later given scope to indigenous people to achieve education. After construction of the dam, given a certainty to agriculture production lead education to the later generation.

Existing Housing Patterns

Presently most Adivasi's have pakka or semi constructed houses made of cement and bricks. The size of the house is limits in 300-600 square feet which usually not have an attached toilet facility. House structure comprises small shed for cattle's in the vicinity. Cattle's are still a significance part of their day to day life. Many Adivasi families still not economically adequate to have cattle (usually the trend is of having buffaloes and goats). Physical proximity is vital and persistent in spite of independence among family thus structure of house also depicts the same. Many villagers have *pakka* constructed big houses with all amenities but number is very less.

Earlier the Adivasi community used to be dwelled in the *Tapara's* (the one room of house divide into three small parts – *choka* the kichen, *maveshina khoonta* means the small polls for the cattle and *kothi* the huge mud stick made cubes to preserve the crops through the year – *khtala* the bed this all set up used to be in one room) still many have *Tapara's* in Wagar region. Very few Adivasi people have one bed room or two bed room house.

The induced factor analysed by the researcher for the housing condition are – the poor economic condition, loans of baniya (the businessman), meagre wages one earns and traditional pattern of conceptualizing houses. The reason for debt analysed were many like *notra*, *katta* and other huge ceremony organised to feed mass population of the community on large scale at various events in life leads to cycle of debt. Researcher also found that 'Indira Gandhi Awas Yojana' of Government has significant role in building of majority of Pakka houses in the region.

Development and Women empowerment

Access to health services scenario changing gradually but certainly. Maternal mortality and child mortality still is on its high (HDI specific to research area is not available). Though the facility is available in the reach of 20 kilo meter radius some myths still leads to make worsen the health and disease situations. The foremost prevalent practice to treat any disease is *Bhopa* and *Jhada* (the person who deals with ill evils). At present too this practice is very much customary not just amongst the Adivasi's but also amongst the advanced society of the region. Malaria and Hepatitis is the most common disease people are mostly affected in the region. Polio eradication program have remarkable result among under 14 age group in the area. Past decades people faced miserable experience of *Naaru Rog* (a disease which caused due to the contaminated water and make person to severe situation, sign of the disease is a thread sort of long growth from the skin of leg and hand). Immunization and seasonal disease care done by ASHA workers and ANM's of the sub centre. Anaemia and mal nourishment persistent among the community due to the eating habits which researcher mentioned in above heads. The Ante natal care and visiting to health centre practice is null and having vaccinating during delivery done by ANM's of nearest centre. Institutional delivery started taking place in very good percentage. Home deliveries if taken place, assisted by the elder women of the house or relatives or untrained birth attendant (*daai*) of the locality. Some home deliveries are handled by the nurses of the near health centre. Due to the distance factor to hospital at the delivery time woman taken to

hospital on two wheeler or on *Khatala* (the wooden knitted bed) by male members of the family which contributes to risk to mother and child's life. It is also explored through the study that Tuberculosis is major communicable disease among the Adivasi community as many have no ventilated house and healthy food, migration, indulgence into hazardous activities, lack of hygiene. Researcher also able to analyse that TB is prevalent more among the age of below 35 (as most of them are into some kind of labourer work). Children are also susceptible to acquiring TB. Awareness of HIV is completely unfounded among all age group (not included below 13 year).

Employment situation and Impact on Women's situation

The employment scenario emerging through the study is above satisfactory. As undoubtedly agriculture has improved in areas of down streams of the dam. Agriculture development made significant changes in people's lives but the quality of life and improved living has not been changed much. Migration in the area is still a process of getting livelihood for a section of landless families. Vegetable cultivation making people to survive in all seasons but all Adivasi's not having that big farm lands to cultivate. Through small farm lands women are getting empowered, as researcher observed that due to availability of dam water the cultivation is taking uninterruptedly. Study shows that Adivasi's having lands are not earning much profit from the yield. People who are not having land or involved in the agriculture, work as daily wage construction labourers in the Banswara city. But this also not gives scope of regular earning because of the uncertainty about availability of works and contractors bonding with the worker. Migration trend is very much present amongst the community. Usually the migration takes place to Surat, Ahmedabad in Gujarat state and Mumbai in Maharashtra mostly during the month of March to August. The few who have primary level education are supporting as assistant for businessman of other strata of the society. Some who possess secondary level education and having some technical education like ITI (Industrial Training Institute) having jobs in private companies and are in government sectors. Very few who possess nursing diploma or teacher's training are certainly into government jobs but that number is very marginal. Researcher also observed through the analysis that present trend is of undertaking formal education like nursing training, technical education in industrial training and primary school teacher training.

Education and Women

The status of women has changed due to the emerged education scope for women. Basically the Adivasi tribe had never introduced education by any era of civilisation. Situation of women changing as education is imparted into lives of these tribes. In present scenario many women are into education like nursing and school teaching. The primary school teaching-STC (School Teaching Certificate) and B.Ed (Bachelor of Education) is quite popular preferences among the tribal women. In nursing training either they prefer to opt for diploma training in GNM (General Nursing and Midwife) and ANM (Auxiliary Nursing and Midwife). These courses not only provided the economic independency also an interaction to the outer society which raised the self esteem among women. Few women who really haven't got much opportunity of having higher level of education are into semi skilled jobs like

Aganwari workers, sales girls in shops of town, small street traders and helping staff in government and private firms. The hostel facility provided for tribal girls enabled rural and remotest place girls to have opportunity of education in near cities. Also researcher observed the two wheeler revolution in small villages changed the communication scenario with the outer world.

Researcher also witnessed during the field visits in the area that small *taparas* (mud huts) also have parked two wheelers outside the house which shows a remarkable change in the society. Connectedness with road and frequent commuting facility through the two wheelers and privately owned vehicles speeding the pace of development in the area whether it is related to the education, health, small trading or employment. Researcher also explored the correlation between the education economic independence and health. Taking few historical narratives it is found that many older generation women never had a choice and say about family planning where as the present generation women are having much access to the health and family planning services. Discussing with the nursing staff of the gynae ward who are working in the health system for past 30 years of the Mahatma Gandhi Government District Hospital of the Banswara district, explained how the health seeking behaviour has changed over the years. Earlier tribal women only used to visit gynae department only in case of critical or fatal condition. The facility of ambulance to remotest area of the tribal region making changes in the health access practice of the population.

DISCUSSION AND CONCLUSION

The women empowerment helps to reduce the health disparities among the tribes of southern Rajasthan. The development model which can relate the need realities of the indigenous people strengthen the strategies to bring in mainstream of development. This study explores the increasing access to public health services and women's role in bridging the gaps to access health services. The study analyses the development model which have had enabled indigenous people to put the step into the development stream and shift in the lives of next many generations in terms of education, health and political participation. The dam model of development allowed to strengthen the community capital through developing their own indigenous livelihood activities and supported to move forward into reducing the health accessing gaps. The dam springs the forces of education, health, women empowerment, employment and the technology ultimately bringing about modernisation in the tribal society. The researcher found a correlation among the development framework and women empowerment and the reduced health disparities. The Mahi Bajaj Sagar Project seems to produce the intended impact of rapid socio-economic development of the indigenous of Banswara district with the organised national and international efforts of various stake holders. It also answers the raising criticism against the development projects by the careful examination of the situation of improved situations in the lives of the many people.

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