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Physical and Socio-Economic Aspects of Pachim Takarjala ADC Village, Jampuijala R.D. Block, Tripura-A Field Based Study

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Abstract

The principle of this study is to find out the rapport between physical condition and socio-economic status of tribal people which shows that it is not a developed village. The physical condition of this area is dynamic and keeps changing with the intervention of cultural groups. Burima is the main river in this area and also there are numerous small charas (Small tributaries) and people usually used this water for bathing and washing purposes and for drinking purpose they use ground water by cutting wells and putting tubewells. Population is growing and with that the human involvement is also increasing in this area. The educational status of this area is not well and it is worsened among the females. The standard of living is not up to the mark. The people living here are all belonged to tribal community and among them Debbarma is highest in number. Most of the people are engaged in agricultural activities and laborers. They usually cultivate paddy as climate is suitable for this. The irrigation is done only through pump sets which is not affordable by everyone. Here, we find the close rapport between man and environment. Flood usually occurred in every alternative year along the river Burima. Plantation is also done in the Tilla lands like Rubber plantation. Nowadays, the people are educating and they know what to do to save the environment.

Keywords: Physical Condition, Socio-economic, Cultural groups, Population, Standard of living

Introduction

The study of my concern is discussed the physical and socio-economic status of Pachim Takarjala ADC village under Jampuijala R.D. Block, in Sepahijala district. The study area is characterized by the undulating highlands (Tilla) and lowlands (Lunga). The study area is drained by the 'Burima' River and numerous small streams, locally called 'Charra'. The Tilla part of this area is covered by natural vegetation and Rubber plantation and lunga parts are used for agricultural activities such as paddy cultivation, production of vegetables and others. The valley portion is occupied by the nucleated to semi-nucleated type of settlement. The pattern of the study area's settlement is linear in nature. Maximum people of this area are engaged in agricultural activities, fishing with livestock farming. The Tilla parts are vulnerable to soil erosion and they usually used these Tillas for gardening and domestic purpose. This area is also prone to deforestation and environmental degradation. Nowadays, this area is developing in nature and various developmental programs are introduced which help the people to develop themselves.

Location of the Study Area

The present study area is located within 23°41' N to 23°43' N latitudes and 91°23' E to 91°28' E longitudes at Pachim Takarjala ADC village under Jampuijala R.D. Block in Sepahijala district. The Pachim Takarjala ADC village covered 1251 Hectares in Jampuijala R.D. Block. The study area lies in middle of Jirania R.D. Block and Ratanpur ADC village in north, Pekurjala and Madhya Ghaniamura villages in east, Kalaibari village in south and Kallai Verma village lies in the east.

Methodology

For assessing the physical and socio-economic status of the study area I have used the following methodology to carry out my study in three different phases-

Pre-Field Study

For the purpose of present study, at first, I have prepared a base map of Pachim Takarjala to address the problem with help of Google Earth and Block map of Jampuijala R.D.

Block and after that I got some idea about the landuse pattern and their settlement which helped me a lot to do my field work.

Field Work

The field work is conducted through questionnaire survey method, observation method, focus group discussion method and different geographical methods and techniques (cross sectioning, water velocity etc) have used to understand the characteristics of physical environment and intensive door to door survey has conducted to know the socio-economic status of the study area by taking households survey. Stratified random sampling has been used in order to collect samples (households). A total number of 94 households are surveyed in this village.

Post Field Work

After collecting the data from household survey, I have plated my post field work into two parts-

- A) Data Analysis and Assessment:** Apart from the primary data, I have also collected secondary data on demographic features. Statistical figures are prepared from the data collected from the field through software and are analyzed through some quantitative techniques and methods.
- B) Sources of Data:** It is necessary to collect data from various sources for any study. This study is mainly based on Primary data collected from questionnaire method. Secondary data has been collected from Jampuijala R.D. Block and Pachim Takarjala Gram Panchayat.

Physical Environment of the Study Area

Physical environment implies the natural condition of the area where people usually resides and adapted the natural circumstance for making settlement. Physical environment plays a vital role for forming a cultural group because each cultural group is formed in each specific natural environment. The detailed physical environment of the study area as follows-

Physiography: The physiography of the stud area is plated into two distinct landforms namely Tilla and Lunga. The Tilla lands are the low ridges with highlands along the Lunga plains and piedmont plains due to slope retreat for continuous geomorphic work by the river Burima. The lungas cover an extensive area of Burima river basin and this area is predominantly characterized by dry uplands. The uplands include some portion of Barmura range near Champaknagar with gently sloping and low relief flanking the uplands. Topographically the surveyed area is dominated by floodplains. The general slope is from west to east direction. Gently sloping landforms have been seen along the river bank side. This area has adequate bar susceptible to seasonal flooding as the average gauge height of this river is approximately 1 ft to 1.5 ft. the floodplains and lunga lands are intensively cultivated by the farmers.

Geology: The study area is made up of upper tertiary sediments belong to the Tipam formation is found in the underlying structure. Tipam group of rocks are dominated by sandstone, quartz and large-scale cross bedding. The floodplains are characterized by recent Holocene deposits so called riverine deposits or alluvium deposits.

Mineral: In this area only sand and clay has been found along the banks of river Burima.

Drainage: The study area is drained by the river Burima which is found to originated from the Barmura Hill Range

that is found to the east, south-east in the uplands. The river is non-perennial in character and it flows in meandering path. This river is locally called 'Tuima'. The length of this river is 35 km and total catchment area is 194.25 sq km. the river remains dry or less volume of water in winter season to summer and in rainy season, it becomes energetic and the adjoining areas come under its grip when flood occur. The annual flow (in '000 cumec) of river Burima is 13428 cumec which is 1.69% of total flow of major stream and other small streams of Tripura which is very low but sufficient for the people living in this village. Natural levees are prominent in this area as they used this natural path as a road for walking. The jig-jag course of the river causes massive bank erosion and also breaking up the natural levees. The river banks are characterized by convex to concave slope I the study area. The presence of large scale aggradational features like channel filling, point bar, shoal etc specify the shallow scenery of the river Burima. The cross-sectional work of river Burima has shown that west bank is deep as water flow is high and in east bank has low water flow so the maximum riverine depositional features are formed on this side.

Climate: The study area is belonging to tropical monsoon type; because of latitudinal and longitudinal effect which indicates hot and moist or humid situation in summer and cold in winter seasons. The extent of summer season from March to May having average temperature is between 25°C-30°C and temperature begins mounting with beginning of the season but monsoon rainfall avert the extra rising of temperature. During winter season the average temperature of the study area doesn't go below 10°C. The study area receives average rainfall of 200 cm-250 cm.

Soil: "Soil is a natural body of minerals and organic constituents, differentiated into horizons of variable depth which differs from the material below in morphology, physical and chemical properties and composition and biological characteristics" – Joffe. It is the basic resource to support the living things on the surface of the earth. Soils developed in this area are of „Inceptisols" and „Entisols" group. The texture of the soil is belonged to sandy clayey loam. In the study area two major groups of soil are recognized – 1) Red loam and Sandy loam soil are found in the bottom portion of upland areas which is entirely transported soil and 2) younger alluvial soil found along the floodplains of Burima river which is fertile and maximum agricultural activities are doing on it.

Natural Vegetation: Natural vegetation is the appearance of natural geographical unit. The study area is confined under Sadar forest division. Here we find Bamboo trees like mulli, mitinka, rupai, dollo, poncho etc. some medicinal plants are also found in this area. The principle deciduous trees are Sal, Segun, Garjan, Gamai, karai etc. Here we also found fruit trees like mango, jackfruit, litchi etc. As deforestation is going on rapidly by tribal people, the natural vegetation is shrinking. Reserved forest is very imperative to protect for balancing the ecological system.

Socio-economic Status of the Stud Area

The social and economic status of any area determines the developmental condition of that area. Economic conditions of any particular area also disclose the social structure of that area. The various socio-economic aspects are as follows-

Agriculture: Agriculture constructs the vertebrae of the economy as well as the social development. Maximum land is utilized for agricultural activities and plantation of wood trees and rubber. Multiple cropping is practiced in the floodplains of river Burima which is mainly done by the family members

specially the aged persons but females are also participating in the agricultural activities and they also hire labors to do work on their fields. Paddy is the most important crop that has been grown in the area but some other crops like different kinds of vegetables, ground nuts, oil seeds, potato, banana etc are also grown along the Burima riverine sandy tract. Here, rotational cropping pattern has practiced. In the month of April to September and November to February, they usually sow seeds and produce crops. Triple cropping system is also doing in this area as they don't have too much of cultivable land. They usually apply primitive agricultural tools but nowadays they are using modern agricultural tools like tractor and also, they use chemical fertilizers, insecticides, pesticides etc. as soil fertility is going down and production is also decreasing due to climate change by human intervention. So nowadays, the villagers are changing their primary occupation to other allied activities.

Irrigation: This state is usually dependent on monsoon rainfall as all the river in this state is non-perennial. Therefore, irrigation takes part in an important from the agricultural point of view. Irrigation in terms of canal, chara, tube well or well irrigation. Deep tube well, lift irrigation are also common in this area. In Pachim Takarjala, the main source of irrigation is lift irrigation. About 28 kani land is irrigated by the lift irrigation system. There are 54 ponds, 2 canals and 3 deep tubewells are used for irrigation purposes. Some farmers are also used pump set for irrigating their fields which are provided by the Block office. Nowadays, some portion of the study area comes under minor irrigation scheme.

Industry: In the study area, there are some small scale industries which are carried out by the family members and self-help groups to earn money for feeding their stomach. The most important household industries are pot making, incense stick, handicrafts and handloom industry, bamboo cane making, rubber sheet making, farming of various animals etc. For pot making industry, the soil is collected from the river Burima usually muddy and loamy soil. Piggery farming is an important livelihood for the tribal people by themselves and with the help of Govt. assistance.

Population: Population is the key factor for any kind of study in this world. The total population of the study area is 6222 persons consist of various tribal communities like Tripuri, Chakma, Debbarma etc. among the various tribal communities Debbarma community is having highest population. The total household surveyed is 75. In household survey, the total population is 432 persons. Out of 432 persons, the percentage of male population is 53.24 % and female population is 46.76 %. The sex ratio of the study area is 878 which is very low in terms of Tripura (961) and even in India (940) which emphasizes the under developed (low) age-sex structure and future low economic growth. The child sex ration of the study area is 109.09 which is also similar in the context of Tripura as well as India that highlights the future age-sex structure and also the future social structure. The Age-Sex composition of the study area is highest in the age group of 20-45. Among the old age people, females are more than the males and females are having high longevity than the males. The literacy rate of the study area is 54.17 % through household survey but it is also very low in the context of Tripura (87.80 %) and remaining persons are illiterate. After completing household survey, it is seen that the literacy rate among the male is 84.61 % (in Tripura, it is 92.20%) and the literacy rate is lower among the female is 65.66% which is also very less in terms of Tripura's female literacy rate (83.20%) as they usually involved themselves on household

works and agricultural activities and most importantly their cultural reasons. The literacy rate is low in this area because of backward economy, lack of modernization, lack of schools and institutions have kept this area in the state of illiteracy. But nowadays, various organizations, NGOs, missionaries etc are working to upgrade the literacy level and also giving them various vocational training programs so that they can learn to establish themselves in the society. In this area, maximum persons are belonged to Hindu religious group but christens are also there as people usually take Christianity in terms of push-pull factor.

Employment and Income

Employment is the key factor of a person or a group of society does his/ her work to feed its stomach as well as its family or the persons those who are dependent on him/ her. The people usually work on the field by feeding themselves or selling their work for money to get food for him or for his In the point of view of household survey, out of 432 persons, 45.86 % of people are doing agricultural activities; 32.60 % of people engaged as a laborer; 11.60 % of people do business and remaining people, 9.94 % are doing Govt. services (% are done from the households survey). So, it is seen that maximum people are engaged themselves in agricultural activities as agriculture is the main occupation in this area but some people are also worked as a daily laborer and for it they usually go out from the village and work in the fringe areas or urban areas as they don't have sufficient land to practice agriculture. The people those who have money they do various kinds (small scale) of business-like shops in the nearby market, farming, rice mill etc. and some people have Govt. jobs those who are well educated in this area. The 52 % of households are fall under the income group of Rs. 3000-5000 following 28 % of people are come under the purview of Rs.5000- 7000 which is very low in terms of monthly family income.

Settlement and Housing

The poor economic structure is also evident in their housing condition as their main livelihood is based on agricultural activities and farming. Most of the households having mud wall with tin roof and mud wall with straw roof which is seen in the Assam state. It is also seen that some houses are built by the bricks and tin. With the passage of time, they are avoiding to build houses with bamboo and straw. The houses are built along the river bank, on Tillas and as well as along road side. Hence for, the settlement pattern of this area is linear in character but in terms of settlement type, they are dispersed (in the Tilla side) to semi-nucleated (on the plains and along road) in nature. In one cluster, there are hardly 15-25 houses in a particular portion of this area and another cluster has formed far away from one cluster say one km away.

Transport and Communication

Transportation is the key element for economic development. Transportation tells us about the physical infrastructure of any area. Transportation basically implies the movement of people or goods or anything from one area to another area. In the Pachim Takarjala ADC village, only one metalled road is there and people usually go from one place to another through it as it is the only developed road in this area but there are numerous unmetalled roads in this area as we called kaccha road or brick soling road. The people of this area usually prefer to go through unmetalled road for their domestic

purposes. There is a wooden bridge in this area which connected this area with neighboring areas. After observing, it is seen that this area is having transport facilities but not up to the mark as they are having. This in turn proves that this village is not well developed and to develop this village proper roadway need to be built so that transportation system enhances and the area will also develop and for this Panchayat, Block Office, ADC council and State Govt. should look into this matter and take necessary steps.

Communication is the most important developmental indicator in the modern world. Communication plays a vital role for developing a particular region. The socio-economic development of a region also depends on its communication network system. In this area, the most of the households are having electrification system but they are saying that power cut is too much sometimes it is beyond 5-6 hours at a time. Post office is found there but it is not well maintained as the Post Master usually delays to deliver the letters. Landline connections are almost zilch as the economic condition of this area is not well and they don't afford the bill. Mobile phones are seen in almost every household which they can afford they said but the main problem while using mobile phone is that the area is not having adequate Tower facilities. The people of this area usually used two wheelers and four wheelers' vehicles to move from one place to another, as there is no private and Govt. bus services. The travelling cost is also higher in this area and they are facing some problem for it.

Man-Environment Relationship in the Study Area

The study of relationships between man and environment has always been, in one way or other a focal theme in geographical study. As the man became social, economic and technological man, he broadens his environment by creating his own environment (built environment) through his design and skill to have provision for better food, shelter, access and comfort. Man-environment relationships can be perceived and evaluated in a variety of ways and approaches. According to environmental determinism, man is a product of earth's surface. This means that the earth mothered him, set his task, directed his thought, strengthens his body to face any kind of problems and at the same time whispered hints to for their solutions. On the other hand, Possibilism attempts to explain man and environment relationship in a different way, taking man as an active agent in environment. It asserts that natural environment provides options, the number of which increases as the knowledge and technology of a cultural group develop. According to Vidal de la Blache, nature sets limits and offers possibilities for Human settlement, but the way man reacts or adjusts to these conditions depends on his own traditional way of life. However, this is not a one way relationship and approach provides for the exploration of the influence that the human beings have on the physical environment but they also modify the natural environment through their activities.

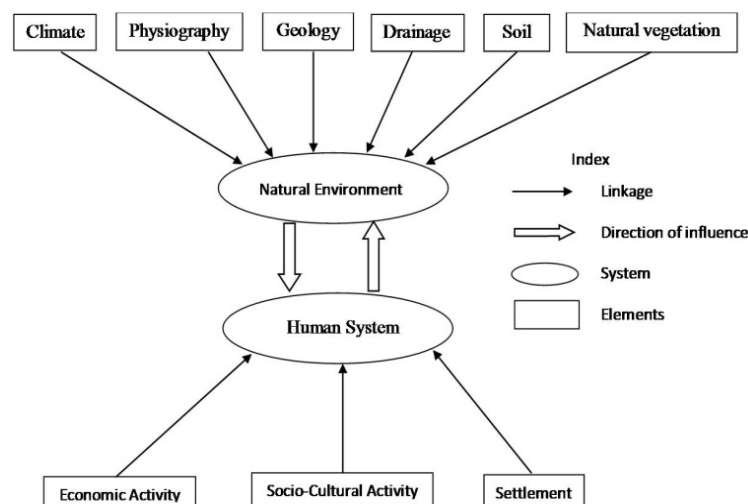


Fig 1: Man Environment Relationship

Environmental Hazards and Associated Problems

Over the last few years, the rapid growth of population, settlement and extension of roads are increased which causes a brittle ecological balance in the study area. The environmental hazards like soil erosion from Tilla lands, flood along the river Burima, cyclone etc. The area is severely affected by flood almost every alternative year in the month of July to September and also by Cyclone in April to June. The floodplain along the Burima River is flooded in every alternative year and inundated the neighboring areas and these areas are risky and hazardous in terms of flood. The root causes for environmental degradation are like- Unchecked cutting of trees and jungle for rapid growth of population, increase the gradual changing of climate (temperature) and soil erosion and also decrease of ground water table etc. The people living in this area are facing these problems and among them water scarcity is a major problem as they usually don't get sufficient amount of safe drinking water.

Influence of Natural Environment on the Human Environment

The study area is a rural region in nature and the influence of natural environment is much more than urban region. The main economic activity of this area is agriculture and it shows the influence of natural environment in point of view of cropping pattern, duration etc. the crop produces in this area is paddy which is only possible where the rainfall is high. The area receives 250 cm rainfalls annually and maximum being during rainy season. The temperature during summer season is 30°C and in winter season temperature goes down to 10°C. The paddy is the only crop is grown in this area and during dry and cool seasons; they kept their lands as a fallow land or produce vegetables. Water (Moisture) is a crucial factor for any kind of agricultural activities. The problem of shortage of water is solved by the irrigational practices. Apart from the rainfall, people usually access ground water for agricultural activities through dug wells, pump sets. At present only few households are staying along the river Burima and used river

water for agricultural activities but except this river water is used for bathing and washing clothes. This makes it very susceptible to indecisive climatic circumstance.

Influence of the Human Activities on the Natural Environment

Agricultural activities, plantation (rubber) along with other activities lead to a modification of the natural scenery to ensemble human necessities. It is seen in the study area that jungles are cutting for human settlement and making them agricultural fields due to rapid growth of population. The natural vegetation that was previously occupied in the area has been replaced by cultural vegetation i.e. agricultural crops and human settlements. The tropical deciduous type of vegetation previously found in this area but now it is only found in the upland areas and it is brought under the reserve forest to protect it from further human intervention and modification. The land use pattern of the study area has been recognized as settlement, agricultural land, reserved forest, degraded and highly degraded forest areas. The small wreckage land holdings and nuclear family pattern is an indication of the increasing population. As population increases, there is requirement to clear the lands for making settlements. Again, as the population increases, there is need of more food and for this; there will be more expansion of agricultural lands. It is missing unimpeded two demands i.e. land for shelter and agricultural activities which destroy the remaining natural vegetation cover. The other human activities which are also responsible for degradation of environmental condition are – promotion of brick industry, cutting the Tilla lands for making roads, filling up of wetlands and wastelands for making construction, increasing temperature due to high level deforestation etc.

Conclusion

Pachim Takarjala is one of the populous ADC villages under Jampuijala R.D. Block. The villagers are still living in poor condition because of various physical, social, cultural, economic and infrastructure backwardness such as poor health status and medical facilities, poor quality of life, bad transport and communication system, lack of educational institution, availability of market and domestic products and also lack of Govt. assistance and welfare. The study area is characterized by uplands and lowlands which form a great variety of environmental condition. Climate, soil, topography etc. plays a vital role for agricultural production. The study area is drained by river Burima and people used its water for bathing and washing clothes and for drinking purpose they depend on deep tubewells and ring wells. On the other hand, the human activities are also influencing the natural environment as they cut the Tilla lands and make it suitable for human settlements and they also indiscriminately fell down the trees and clear the natural vegetation replaced by the cultural activities. Thus, it is seen from this study that the study area has both side influence whether directly or indirectly. It has the great potential to overcome the problems related to their development and also sustainable growth.

Suggestions

Suggestions are nothing but the important points that are observed during this survey and put them forward to the Govt. or Authority for the betterment and development for this area. Some of them are as follows-

- i) Checked indiscriminately cutting down of trees and clearing forest and more emphasis should be given in

afforestation and social forestry, so that greenery would be maintained.

- ii) To prevent environmental hazards like soil erosion, flood, river bank erosion, Govt. should take necessary steps and introduce campaigning for people's awareness to know about these problems better.
- iii) To give better training programs to the farmers about scientific method regarding for better yielding from the agricultural activities.
- iv) Fallow Tilla lands should be utilized for various plantation crops through proper arrangement of water.
- v) Transport and communication network should be developed more for the development of this area.
- vi) Educational facilities should be improved.
- vii) Medical facilities should also be improved as there is only one dispensary and one medicine shop.
- viii) To stop the extra sedimentation in the river Burima by regular drilling of sands from the river bed.

Man cannot change the physical environment but he can modify it through his various skills and technology and make the environment suitable for living. Thus, with due consideration of the above suggestions, this area may would prosperous, progress and developed in the field of physical and socio-economic condition.

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