



METHODOLOGICAL APPROACHES TO EVALUATE RURAL DEVELOPMENT OF BANGLADESH: A CASE ON DISTRICTS ALONG THE RIVER SIDE OF JAMUNA

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ABSTRACT

The study explains how to develop the methodological approaches to evaluate rural development of Bangladesh thus there are set four variables to detailed understanding and appraising the rural development. This paper contends that non-government organizations (NGO) of the rural area of Bangladesh can play a fundamental role to the rural development. According to the local NGO's activities of the said areas this paper emphasis on agricultural sectors, education sectors, health and sanitation sectors as well as micro-credit. Using GIS and remote sensing approaches making equal distribution of the local NGO's for minimizing the distance to get proper services. Making plan for the said sectors emphasis on the local people perceptions and demands.

Keywords: *Methodological approaches, rural development, Non-government organizations (NGO), Agricultural sectors, Education sectors, Health and sanitation sectors, Micro-credit.*

I INTRODUCTION

For the progress of the rural sectors policy makers and the planners have given the most preference to development. Prop up rural development planners have pursued strategies in the different levels. Rural development may be conceived as an important aspect of development intervention. As a concept, rural development runs basic function of the public administration; community participation as well as voluntary activities of NGO's and rural poor is the target beneficiaries. However, the rural development is all embracing surrounding multidimensional aspects of rural life. Conceptually rural development is inter-disciplinary topic relating to economics, administration, health and sanitation, business management, co-operative, credit and the



community action. Government and non-government organizations are edify the rural people how resources are mobilized, how the community of people is organized and how participating values are manifested in real life function. [3].

Facing the challenge of providing sufficient employment and food rights to their nearby population almost all the developing countries in the world. Slowing the rate of population growth to secure and convenient level and generating an annual increase in food output that keep up the demand of increasing population. Thus by the term of rural development this paper mean lifting the productivity and accordingly the real income of families earning their livelihood by increasing employment opportunities in the farm and non-farm activities, in that way facilitating their levels of physical, social and cultural well-being (Sen, 1995) [6].

II RURAL DEVELOPMENT CONCEPT

The World Bank defines rural development as “A Strategy designed to improve the economic and social life of a specific group of people. It involves extending benefits of development to the groups who seek a livelihood in the rural areas. The group includes small scale farmers, tenants and the landless” (Obaidullah, 1995) [9]. It gives the impression that the rural development not only for the economic development but also for the social development to the specific group of rural people includes marginal farmer, landless, sharecroppers, tenants, small traders and the other occupational groups who lived at subsistence levels.

Rural development defines as a micro-level concept based on the relevant literature review and the perception of the local people of the study area. This paper define rural development as-

- i. Rural development as Agricultural development
- ii. Rural development as Educational development
- iii. Rural development as Health and sanitation development
- iv. Rural development as poverty development

III AIM AND OBJECTIVES OF THE RESEARCH

The research aims to develop the methodological approaches to evaluate rural development of Bangladesh. To fulfill the aim of the research the following specific objectives have been place up. Those are:

- a) To name what types of development exists in the study area regarding on NGO’s activities
- b) To collect the local people perceptions and opinion about rural development
- c) To develop methodological framework regarding on NGO’s activities to evaluate rural development

IV SOURCES OF DATA AND METHODOLOGY

The study used primary data and secondary source to meet up the objectives of the study. The study mainly

depends upon primary data which has been done through FGD, key informants Interview, case study and personal observation.

Secondary data such as census, Google earth image, Districts Maps, Upazila and Union Maps were used spatial distribution of local NGO's as well as their activities. The secondary data and literature helps to evaluate the NGO's activities in the study area.

V STUDY AREA

There are 145 unions of 5 districts along the river side of Jamuna under the study area. Districts are Sirajganj, Bogra, Jamalpur, Gaibandha and Kurigram. The Jamuna River originates from a glacial part of Kailash Peak of the Himalayas, then flows to the east over Tibet and finally passes through Assam to the west and after that, The Jamuna Rivers enters into Bangladesh near Kurigram District. Riverbank erosion and deposition are common features in the study area. Road network of the rural areas is very poor.

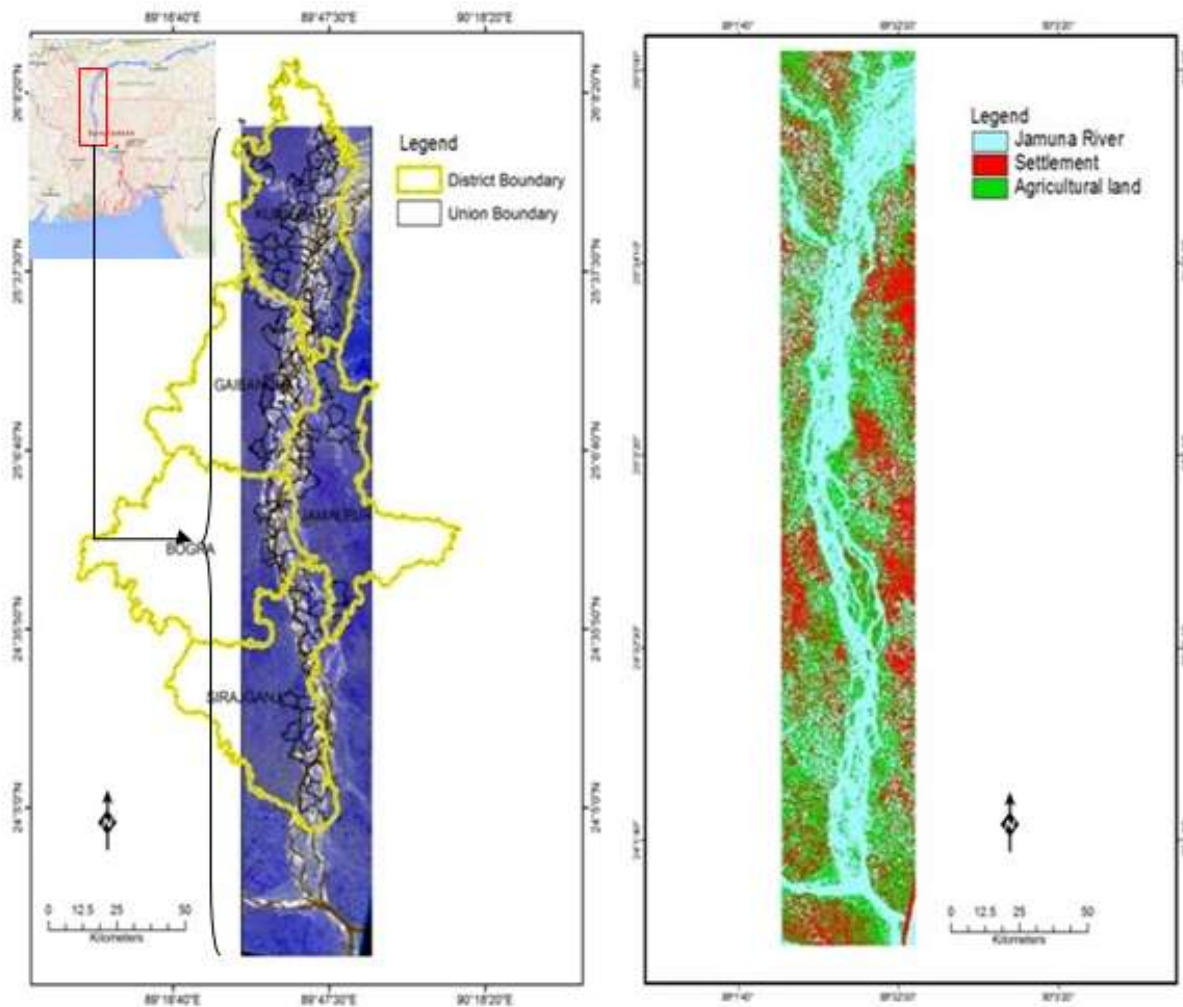


Figure: Above figure shows the study area along the river side of Jamuna, Bangladesh

Source: Made by authors, 2015



VI NMAJOR FINDINGS OF THE STUDY

6.1 Rural development as Agricultural development

Bangladesh is predominantly an agricultural country and its economy intensely connected with tangible success in the field of agriculture. This paper analyses the agricultural development to the rural areas of Bangladesh and the factors that are contributing to it. Population raised much faster than the agricultural production as of late. In recent years, it is observed that there are many non-government organizations have taken strategies on the development of agricultural sectors for rural development whereas they supported local groups to seed production and distribution, fertilizer distribution, multiplication of planting, plant breeding, irrigation management and land use development planning, kitchen gardening and home level food processing, small farmers and landless laborer’s development and one House one farm construction.

Rural Development signifies the growth of agriculture which is the mainstay of traditional occupational structures of present society. Agricultural sector operates in traditional peasant economy to facilitate rural development in Bangladesh. It actively holds the key to micro-economic resilience and contributes to self-sufficient in food [3].

This paper aims at how to draw the relation between agricultural production and rural development by the following correlation equation-

$$r = \frac{[\sum xy - \frac{(\sum x)(\sum y)}{n}]}{\sqrt{[\sum x^2 - \frac{(\sum x)^2}{n}] [\sum y^2 - \frac{(\sum y)^2}{n}]}} \dots\dots\dots(I)$$

| Number of villages (n) | Name of the villages | Trained farmers (X) | Avg. Profit (Y)/Year |
|------------------------|----------------------|---------------------|----------------------|
| 1 | A | 1 | 100 |
| 2 | B | 2 | 200 |
| 3 | C | 3 | 300 |

(For examples)

Whereas r = correlations between the variables, X= Trained farmers, Y= Avg. Profit from the agricultural products, n= Number of villages.

r lies between -1 and +1. Value near 0 means no correlation and near -1 and +1 means there have strong correlations between the variables.

In this paper emphasis on developing crop calendar for the rural farmers to choose the plants and seeds selection in a proper date and time with growing period, high labor demand, selling period, Disaster affecting period as well as most productive period. For the long-term sustainability this paper also draw an attention to improve irrigation systems, improve the structure of agro-politan communities, increase the infrastructural facilities with improve communication systems, making agro based industries and markets in the rural areas of Bangladesh .

During the 70's the government agencies initiated irrigation in agriculture in Bangladesh. But it was not flourishing in small farmland. In small size farming land, deep and shallow tube-well was not appropriate for growing vegetables and spices. For the small and seasonal farmers the NGOs have developed bamboo/cane tube-well, oar pump, star pump, dheki pump etc. type of irrigation technology with minimum cost.

If we make a regression line of the following data

| Number of villages | Name of the villages | Trained farmers (X) | Avg. Profit (Y)/Year |
|--------------------|----------------------|---------------------|----------------------|
| 1 | A | 1 | 100 |
| 2 | B | 2 | 200 |
| 3 | C | 3 | 300 |

Regression equation is or the fowling data is $y = a + bx$ where as y is the predicted value, x is the enter value, a is the intercept line of the y and b is

$$b = \frac{[\sum xy - \{(\sum x)(\sum y)/n\}]}{\sum x^2 - (\sum x)^2/n} \dots \dots \dots (II)$$

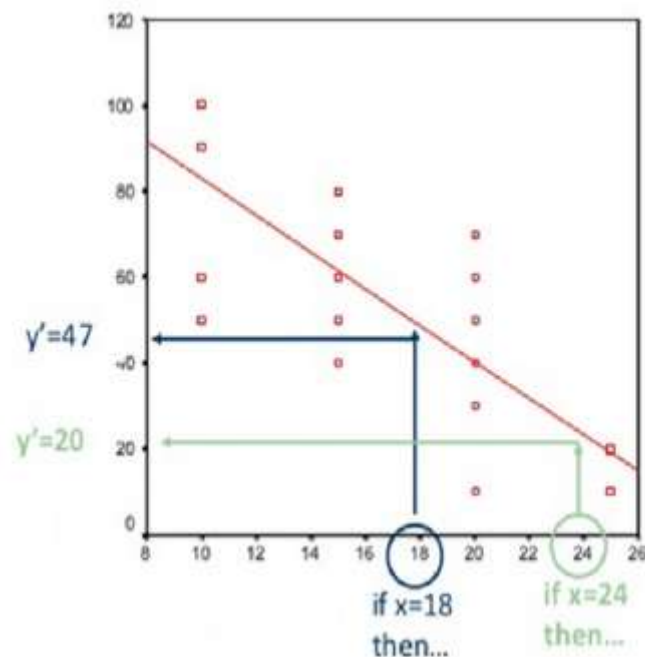


Figure: Future prediction of the rural development (Positive or negative regression line)

6.1.1 Natural barrier for the agricultural development in the rural area of the Bangladesh:-

1. Changes of Temperature Pattern: The analysis of monthly average maximum and minimum temperature shows that monthly average maximum temperature has increased at the rate of 0.010C per year, whereas monthly average minimum temperature increased at a rate of 0.040C per year. Therefore, changing



pattern of monthly average maximum temperature is significantly higher than minimum temperature. On an average, the total change of monthly average maximum and minimum temperature for the particular months has increased about 10 C during this period. Moreover, yearly average maximum and minimum temperature has increased at the rate of 0.030 C and 0.010C respectively. [4]

2. Increase or decrease of agricultural yield due to riverbank erosion:- Increase or decrease of agricultural yield due to riverbank erosion is major barrier to the rural development as of late. In the rural areas of Bangladesh in-situ and ex-situ migration occurred in every year. Thousands of people displaced every year due to riverbank erosion.

3. Drought (water scarcity):-

It is prominent that Bangladesh is happening climate change at the same time as it is a global phenomenon. There have been pessimistic climactic collisions as a result water scarcity, rise in temperature and reduced rainfall among others. So water scarcity is one of the major barriers to the rural development in the rural areas of Bangladesh.

4. Geographical barrier: In the rural areas of Bangladesh geographical barrier like river is one of the major barriers for the rural development. The pride of Bangladesh is its rivers with one of the largest networks in the world with a total number of about 700 rivers including tributaries, which have a total length of about 24,140 km. Thus the rural poor people live in remote areas that are often huge distances from centers of commerce and social services areas. As a result difficulties in accessing market opportunities rural people don't get proper health facilities as well as increase high levels of illiteracy due to transportation facilities as well as barriers of river systems.

6.1.2 Political and cultural barrier for the agricultural development in the rural area of the Bangladesh:-

Political instability and corruptions of the local government in the rural areas is one of the significant barriers of the improvement of the rural poor. In the cropping season the farmers did not have the fertilizer properly that is why they brought the fertilizer in a high rate from the market. Farmers facing electricity crisis in the island areas for irrigation therefore they make use of oil to diminish the crisis. To remove economic, political and cultural barriers for the improvement of agricultural sectors in the rural areas of Bangladesh and prevent farmer's rights by undertaking policy reforms, and strong affirmative action's. The agricultural policy maintained that in the socio-economic context of Bangladesh women's involvement in agriculture is very important. Agriculture related activities like post-harvest operations, seed preservation, nursery business, jute stripping, vegetable cultivation, homestead gardening, floriculture, production of horticulture seeds, establishment and management of cottage industries based on locally produced agricultural commodities are suitable for women (The national agricultural policy of 1999). Although for the religious perspectives women should not be participated those types of agricultural activities.



6.2 Rural development as Educational development:

Educational development is one of the most key indicators to the rural development. This paper aims at development of methodology to evaluate the activities and contribution of different NGO`s to the education sectors in the rural area of Bangladesh. To make a plan for the rural educational development to the rural poor villagers by using the community learning methods and develop the community learning centers in different villages to combine learning with community development.

Education and training need to be placed at the centre of the rural development agenda in order to contribute to eradicating extreme poverty and hunger, to ensure sustainable agriculture, and to build human capacity for rural development (Education for rural development, FAO and UNESCO, 2006).

For several grounds young people in Bangladeshi rural communities usually leave school early.

- I. They are needed to work at home.
- II. Religious causes
- III. No transportation and lack of communication facilities
- IV. Long distances to school
- V. Perceived irrelevant educational content
- VI. Perpetuation of poverty
- VII. Lack of jobs
- VIII. Lack of productive opportunities which could support community development

What to do to evaluate rural development:

- I. Adaptation of school curricula to the rural environment
- II. Making friendly relation between teacher and students
- III. Recreational facilities for the students
- IV. Recruiting and training rural teachers
- V. Involvement of parents in school management and teacher training
- VI. Providing accessible and nearby facilities and infrastructure

The main activities undertaken to evaluate rural development is:

1. Collecting GPS data of each educational institute of the rural areas
2. Making a table regarding on spatial distributions or locations, number of students with male and female, Yearly result, Teachers qualifications, Distance from the home to school both teachers and students
3. Contribution of the government and non-government organization
4. Participation of the local people to the educational sectors



5. Draw the mapping with different variables for examples map of spatial distributions or locations, spatial analysis of the ratio of the male and female students, concentration area of the schools, buffering the distance from the home to the schools
6. Develop meta data for the each school for the long-term planning
7. Analysis the natural and environmental barriers
8. Knowing the cultural barrier for the female students
9. Evaluate the adult literacy program
10. Knowing about the teaching and learning materials

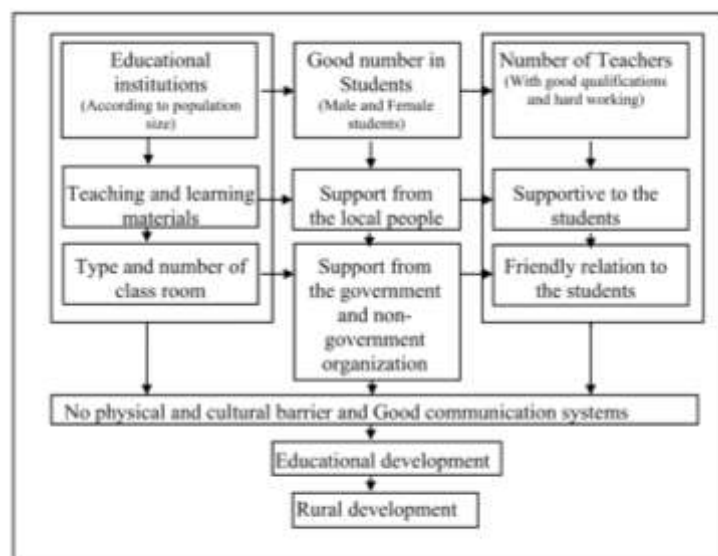


Figure: Educational development showing in a flow chart

6.3 Rural development as Health and sanitation development

Poor sanitation is not only affects the health of the people of the local communities but also affects the economic and social improvement of the rural areas of Bangladesh. That is why there are lot of NGOs working on health and sanitation to the rural areas in the Bangladesh.

Local NGOs working on:

1. Inadequate water supply
2. Inadequate facilities of disposal of human excreta
3. Wastewater and solid wastes
4. Health services using a national training strategy
5. Geographically dispersed training institutions by working with hospitals throughout the country to provide health workers with training closer to home and at a lower cost
6. Childhood illness in the rural areas, NGOs clinics provide the service under the banner of Smiling Sun

7. Working on tuberculosis control program in selected Smiling Sun clinics
8. Provide the family planning facilities
9. Maternal and child health care services

The main activities undertaken to evaluate rural development is:

1. Evaluate the clinical service of the rural areas
2. Mapping the working area of the NGOs clinic
3. Monitoring and evaluate the sanitation system of the study area
4. Analysis the local people perceptions and opinion about the clinical services of NGOs on sanitation and health as well as maternal and child health care services
5. Evaluate the family planning facilities
6. Distance between clinics and the local peoples house

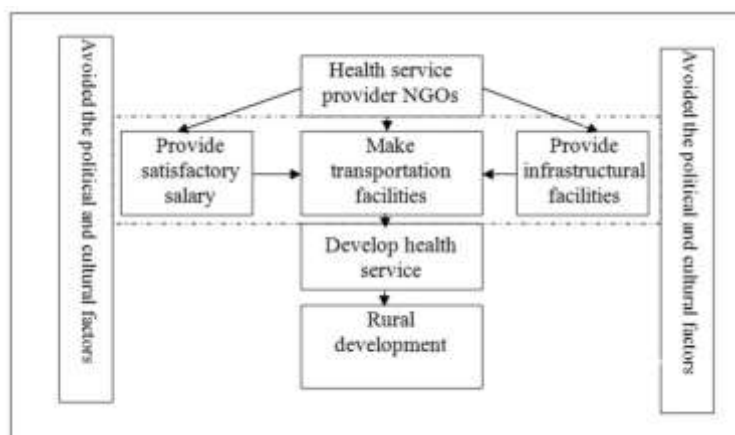


Figure: Health development showing in a flow chart

6.4 Rural development as poverty development

What kind of strategies should be taken to alleviate poverty? At a micro level, small scale enterprises and microfinance including the Grameen Bank model have been recently referred to by various agencies in the Bangladesh. In this circumstance, it is significance referring to Jeffrey D. Sachs's strategy (2005), for alleviating poverty. According to Sachs, a 'poverty trap' must first be solved in combating poverty. Although the poor have willingness to overcome their ill-being, they are not able to do it by using their own resources. There are so many factors that trap the poor until they are in powerless conditions, such as diseases, climate stress, environmental degradation, physical isolation, and also extreme poverty itself [5]. In helping the poor to climb out of poverty, NGOs use two approaches: supply-side and demand-side [1]. In a similar sense, Fowler (1997) identifies two types of NGO tasks: micro-tasks and macro-tasks. From the supply-side or micro-tasks approach, NGOs provide various basic public services to the poor. It is argued that especially in countries where



government lack public services, NGOs play a significant role in the direct provision of social and economic services. In general, NGOs emerge and play the roles as service providers [2].

The main activities undertaken to evaluate rural development is:

For each branch, the following information will be recorded

1. GPS coordinates (latitude and longitude) of the branch
2. Geographical conditions of the coverage's area
3. Population density of the converges area
4. Year of establishment
5. Number of savers
6. Total value of savings deposits
7. Number of borrowers
8. Total value of loans outstanding
9. Employment status
10. Merits and demerits of the non-government organizations

VII CONCLUSION

This paper tried to develop methodological frame work and approaches for how to evaluate rural development of Bangladesh. The research is primarily based on the field information where GIS, GPS, Satellite photos and Google Earth imagers have played an integrated role. The state-of-the-art technologies will also be introduced in order to fulfill the clearly mentioned objectives of the study. These types of attempt have not been ever attempted before. Through this study, a new frontier of geographic knowledge with be interacted with the experiences of rural development.

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