

Structural Changes in Land Use and Rural Livelihoods of Bangladesh

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Abstract: Bangladesh economy has been changed for the last years and economic transformation is linked with rural poverty and land use. This paper has discussed the development of rural livelihood with to changes in land use and institutional supports. Land use pattern, technological development and micro-credit has influenced towards a structural changes in rural livelihoods. The land man ratio is decreasing and the farmers are becoming landless over time. Some rural people have only homestead and some even do not have. The changing in land ownership and changes in land use system lead to intensive and diversified activities. Meanwhile, government institutions are continuing to provide with extension services and technical support too. NGOs are working increasingly with landless and providing special supports to women through their microcredit programs. There is arising a competition among the microcredit institutions and credit is becoming easy accessible to the poor. Moreover, rural people is getting benefits from rural electrification, extension services supports too. These also influence to change in taste and preferences of rural people. The people are now trying to earn more to meet up improvement consumption habits. The farmland and homestead area is being used intensively. The women are participating in farming and non-farm activities directly or indirectly with men. These on going changes lead to an improved, intensive and diversified combination of farm and off-farm activities with a structural adjustment in rural economy.

Key words: Structural, rural livelihood, Bangladesh

Introduction

The economy of Bangladesh is rural and agriculture dominated. Over 75% of the people live in rural areas and agriculture employs two-thirds of labor force. Almost 80% of farmers are small household. Natural hazards mostly affect the small farmers, cause pauperization and leads to marginalization. Therefore, the land area per household is decreasing over time. The changes in agriculture land use are coming as intensification and diversified within agricultural activities. The changes are such that the cultivable land are going under HYV cultivation and increasing cropping intensity, fellow water lands are going to culture fisheries and the livestock rearing are going to stall feedings. The people are adopting improved production practices and natural dependency has been decreasing. The government institutions are continuing to provide with extension services and the technical support for the farmers. The increasing numbers of NGOs are working with poor and providing micro-credit with special supports to women. The women are participating in both farming and non-farm activities directly or indirectly with men. The small farmland and homestead area is being used intensively mostly by women. The agricultural labor force in the total civilian labor force declined from 78% to 57% between 1974 and 1986, respectively. The non-agricultural labor force at the same time has increased at the rate of 9.5% per year compared to 0.3% for agric labor force. The participation of the female labor force increased and this is very fast in non-farm activities. The promotion of non-farm income, employment generation and rural livelihoods diversification especially for the million of landless and asset less rural poor has linked to agriculture. The growth in non-farm sector is closely linked with the growth in the farm sector via inter linkages in several dimensions for rural development. The main objective of this paper is to understand and analyze the changing pattern of rural livelihood with the change in land ownership and use pattern, institutional and policy supports for last several years. This is a review paper organized into four sections; Feature of rural economy, Institutional supports for rural development, Structural changes in land use for agriculture; and Structural changes in rural livelihood in Bangladesh.

Feature of Rural Economy of Bangladesh

Characteristics of rural Bangladesh

1. Rural people are mostly dependent on agriculture. Poultry, goats, cattle are reared by the same household, who cultivate the fields, grow rice and other crops..
2. Homestead in the rural area is usually used as an integration of crop, livestock, fisheries and forest enterprises.
3. People participate in non-farm productive activities but it is almost complementary to agriculture enterprises.
4. Rural people are usually poor and they have lack of required capital for both farm and non-farm productive activities.
5. Small-scale enterprises with low productivity are developing with some institutional efforts by the people not

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being absorbed in agriculture

6. People are not much educated and a portion is still illiterate. They have not the consciousness towards their duties and on effective use of time.
7. Rural people still believe on fallacies and bogus tradition. These are the barriers for social change and development.
8. People have not sufficient access to education, health care, sanitation, and political activities.

Components of Rural Economy: Rural economy is comprised with both farm and non-farm activities. The farm activities are basically crop enterprises at farmers land area. This sometime includes farm level livestock, fisheries and forestry enterprises. The non-farm productive enterprises are handloom, cottage industry, hand made things etc. The other activities at household level individually, or complementary with farm activities are considered as non-farm activities. This includes milk cow rearing, poultry rearing, rice husking, gardening etc. The livelihood as agricultural labors, rickshaw pullers, petty traders, and other self-employed activities are also the non-farm activities.

Importance of Farm Activities: Farm level agricultural activities are traditional in rural Bangladesh. This is a source of employment of the skilled and unskilled labor force. Moreover, the peasant mode of production is land resource based. The farmers cultivate their farmland mostly with crop enterprise as intensively as possible. The increase of farm productivity leads the country to reach about the self-sufficiency in food grain production.

Importance of Non-farm Activities: The industrial sector contributes 11 % of total employment of the country. One third is employed in the large and medium industries, one third in cottage industries and the rest in the handloom industry. The capital-intensive modern industries employs only 2% of the labor force and the prospect of expansion is limited. Therefore, the rural industries, small-scale urban industries and other non-farm activities will continue to play an important role in the absorption of rural labor force.

The area of homestead in Bangladesh is increasing day by day because of the building new houses. Homestead in rural area is used mainly as dwelling but it is an integration of crop, livestock, forestry and fisheries enterprises. The women usually participate in utilization of homestead land. The extreme poor not even have homestead land, take part most of the non-farm activities.

Institutional Supports for Rural Development: The Village Agricultural and Industrial Development (V-AID) program initiated in 1952 and abolished in 1961, continued to inspire rural development. Bangladesh Academy for Rural Development established in 1959 and played a vital role in integrated rural development. Since after the independent, the government has undertaken many programs designed as safety net programs to support the poor. These are Rural Works Program (RWP), Food for Works Program (FFWP), Rural Maintenance Program (RMP), Food for Education Program (FFEP), Vulnerable Group Development Program (VGDP) and Test Relief Programs. These programs benefited the poor, especially who depend on daily wages for their living.

The successive Five Year Development Plans have continued to emphasize on agriculture and rural development. The First Five Year Plan (1973-78) prioritized rural development aimed at boosting agriculture productivity and attaining food-grain self-sufficiency through introducing new seed-fertilizer-irrigation technology. Bangladesh Agricultural Development Corporation and some other government agencies were engaged to achieve the goal. During the Second Five Year Plan (1980- 1985), Bangladesh Rural Development Board was established to achieve the goal of poverty alleviation. In order to provide the direct benefit to the rural poor, they were brought in cooperatives. The cooperatives for assetless (BSS) and women (MSS) made impressive progress but the farmers' cooperatives (KSS) could not success as desired.

In the early 1980s, a concept of "growth center" intended to support rapid growth of farm and non-farm production and marketing activities. The rural infrastructure especially building of roads, culverts, bridges and market places etc. were developed. This helped increasing farm and non-farm output, employment and incomes of rural poor.

The NGOs appeared as major actors in Bangladesh's rural development programs since early 1980s. The major policy instruments used by NGOs were social mobilization and formation of social capital through skill training and education, awareness building, group mobilization, microcredit and empowerment of poor especially the women. These organizations mostly follow the target-group strategy under which the poor with similar socioeconomic interests are organized into groups and provided microcredit for micro-entrepreneurship development.

The Third Plan (1985-1990) emphasized on increasing labor and farm productivity through intensive use of modern technology. This drive was accompanied by local level planning, large-scale privatization of agricultural inputs distribution and development of rural infrastructures. Ministry of women affairs was created with a view to incorporate the women in development process. The Fourth Plan (1990-1995) emphasized participatory "bottom-

up" planning process with a view to ensuring active participation of the rural poor in the development process. The government then recognized NGOs as partners for poverty alleviation and social sector development. Meanwhile, the number of local and foreign NGOs increased very fast in 1990s. The trend of increasing the NGOs is as follows.

Type of NGOs	1989-90	1999-2000
Local	293	1371
Foreign	89	168
Total	382	1505

The Fifth Five Year Plan (1997-2002) considered poverty alleviation at the center stage of national development strategy and emphasized on broad based rural development. While NGOs played the catalytic role in rural poverty alleviation programs. The Fifth Plan adopts a policy of GO-NGO partnership envisaging use of mainstream government agencies (i.e. BRDB), NGOs and other private sector stakeholders. Recently, the government is also expanding the microcredit program. It is notable that 1,505 NGOs have so far been engaged in 6,773 projects involving a total amount of US\$ 3,050.7 million.

Structural Changes in Land Use for Agriculture

Changes in Resources for Agriculture: The agricultural population and cultivated land, the main resources for agricultural activities have decreased over time, which is presented in Table 1.

The cultivable area per household has decreased but the total cultivated area has increased. The waste and fallow land are going to cultivation and the cropping intensity has increased as the land is being used more times a year. The Table 2 presents the changed figures.

The gain of the resources for agriculture has come as technology. The awareness of rural people has increased due to have some government programs and institutional efforts. People are getting the opportunity to use improved technology. The country is about to reach self-sufficiency of food grain production. Some people are participating in off-farm activities along with farm enterprises, which is helpful for integrated development.

Changes in Land Ownership Pattern by Farm Size: The proportion of small-holding has increased since 1960 is presented in Table 3. The farmer group below 0.40 ha has changed about to double from 1960 to 1996. This may be due to fragmentation of holding among the inheritance and selling the land for some affects of natural or any other hazard. The proportion of land owned by small farmers has increased. This may be due to increase of the proportion of the farm size group. The land owned by the large farmers decreased but it is notable that the proportion of large size group decreased more. The table below shows the changes in land holding and land ownership by different farm size group since 1960 to 1996.

It has been observed that a large proportion (about 50%) of the rural population owns very small land or only the land of homestead or no land at all. The large farmers somehow shifted their activities towards business or services and gave the land to marginal farmers as tenants. It is notable that a large portion of land (about 65%) is cultivated by small farmers, while about 30% is cultivated as tenancy or sharecropping basis. Therefore, the structure of land tenure and land holdings is a very important factor in agricultural production.

Table 1: Changes in agricultural population and land resource

Character	1980	1990	1996
Percent of agric population to total population	74.8%	68.5%	63%
Ratio of agric land to agric population	0.14 ha/capita	0.12 ha/capita	0.10 ha/capita

Sources: BBS 1982, 1992 , 1999

Table 2: Changes in intensity of cultivated land use since 1950

	1950-53	1967-70	1980-85	1995-6
Single cropped area	70.5%	58.1%	53.5%	49.2%
Double cropped area	29.5%	36.4%	38.5%	37.8%
Triple cropped area	-	5.5%	7.5%	13.0%
Cropping intensity	129.5%	147.4%	153.5%	174%

Sources: CSO, 1972 and BBS, 1999

Table 3: Changes pattern of farm holding and land ownership by farm size group

Farm size group	1960		1984		1996	
	% Holding	% Land	% Holding	% Land	% Holding	% Land
0 - 0.4 ha	24.3	3.2	40.4	7.8	48.90	12.99
0.4 - 1.0 ha	27.3	13.0	29.9	21.2	31.07	28.19
1.0 - 2.0 ha	26.3	26.4	18.0	27.5	13.69	26.78
2.0 - 3.0 ha	11.4	19.3	6.8	17.6	3.83	14.71
More than 3.0 ha	10.7	38.1	4.9	25.9	2.51	17.32

Sources: Agriculture Census 1960, 19834, 1996

Recent Changes in the Land use System: The major changes in land use are the using of cultivable land to build infrastructures and the dwellings for the increasing population. The minor changes are that the cropping pattern is changing and cultivable lands are going under HYV cultivation, fellow water lands (ponds, ditches etc.) in rural areas are going to culture fisheries as the open water breeding ground are destroying due to environmental degradation, and the livestock are rearing by stall-feeding as the pastureland are transforming to crop production. The people are now adopting the improved production practices and the natural dependency has also been decreasing.

Household Operated as a Farm Family: Farming was the way of rural life since long before. Farmers grew their needed food, eggs, beef, poultry, ... gardens full of vegetables. The farming system was such that the sons of the peasant reared the age-old culture of self-sufficiency; grow crops, catches fish, plant trees and build home where they could reside. The girls learnt to look after the animals, performs most of the post harvest activities, collect water and look after children.

The farmers always tried to keep their land near to home and cultivate for grow crops, but keep livestock, fisheries and tree at homestead to complement crop. This helped the peasants survive and operate the traditional farming system. The operated land per household has decreased and some farmers have no more land except their homestead. They are trying to cultivate land, the homestead and also participated in different activities other than farming. But the activities of the rural village are becoming homestead base because people want to work with touch of land resource.

Recently a new dimension in the agenda for affirmative action comes as the concept of "one home one farm". This scheme focuses on development of the household and its linkages with progressively larger sets of social and economic units.

Structural Changes in Rural Livelihoods

Changes in Rural Population: The proportion of rural population has decreased over time whereas increased in urban area is presented in Table 4. The rural people go to urban area for education and they ultimately migrate. Some people migrate for business. The increasing population of rural area suffers from income for livelihood. So, the landless people also migrate to sell their unskilled pauper labor.

Changes in Rural Enterprises: The long traditional role of agriculture, as the heart of rural livelihood is changing fast. Nearly three decades of rural development experience in Bangladesh has been quite colorful and instructive. Notable structural changes and diversification have take-place in the rural economy. Crop production has increased to keep pace with population growth and more recently non-crop production (i.e. livestock and fisheries) has also experienced faster growth and contributed significantly to a rise in rural employment and income. The diversifications away form agriculture and into non-farm activities is increasing. Rural people now construct their livelihoods from multiple sources, both agriculture and non-agriculture. Within the changing structure of the rural economy, a gradual but steady shift towards a non-farm oriented growth is identified as the notable characteristic of today's rural Bangladesh.

Key Driver of Changes in Rural Economy

- Rapid spread of irrigation technologies for rice production
- Increased mechanization of tillage
- Support services for farm equipment
- Increased trade in agricultural inputs
- Increased cereal production and subsequent grain storing, trading, rice milling etc.
- Agricultural diversification i.e. poultry, fishery, plant nurseries, etc

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Table 4: Changes in proportion of population between rural and urban area

	1970	1980	1990	2000
Rural population	92.3%	85.10%	80.20%	75%
Urban population	7.7%	14.90%	19.80%	25%

Sources: BBS 1972, 1981, 1992 and world fact book 2001

- Rural transportation facilitated by rural infrastructures
- Rural electrification
- Rise in household income induced to demand for new non-farm products
- Remittances from outside the rural sector

Changes in Employment and Income for Enterprises: The BIDS-IRRI sample household survey data in 62 villages (Hossain, 2002) showed that the employment in rural non-farm sector has increased by 4.5% per year while declined by nearly 1.2% per year in agriculture. Nearly two thirds of rural workers are involved in non-farm activities. It is revealed from Table 5 that the population in the farming activities is substituted to trade and business, services and non-agric labor.

The non-farm activities now account for 52% of the income in rural Bangladesh. Over 1987-2000 period, the household income grew at 3.8% per year. Most of the growth came from rural non-farm sector (mainly from services, trade and business and rural transport operations). It is revealed from Table 6 that proportionate income from the agricultural activities has also decreased. The income from the non-rice farming activities also decreased where the increase was in trade and business, services etc.

Changing the Consumption Habit due to Development: The taste, preference and consumption behavior has changed over time. Rural people get the benefit of rural electrification, extension services, microfinance and some other institutional supports. They are intended towards the improvement habit.

The per capita expenditure in rural area has increased about 49% at nominal price and 16% at real price estimation. Table 7 below shows the changes in expenditure for last 10 years.

In a research in 1983, the villages were divided as developed and underdeveloped based on the adoption of HYV rice cultivation. It was found that the expenditure habit on different commodities varies with the influences of modernized agriculture. The differences of the consumption behavior are presented in Table 8.

Table 5: Pattern of proportional change of rural labor force among major activities

	1987-88	1999-00
Farming	41%	35%
Trade and business	10%	14%
Services	15%	21%
Agricultural labor	22%	11%
Non-agric labor	11%	18%

Sources: Hossain, 2002

Table 6: Changes in the pattern of household income

	1987-88	1999-00
Rice farming	32%	16%
Non-rice farming	15%	24%
Wage labor	18%	10%
Trade and business	14%	24%
Services	21%	26%

Sources: Hossain, 2002

Table 7: Mean per capita expenditure in Taka. per month in rural area

	1991-2	1995-6	2000	Change
Nominal price	Tk.503	Tk.649	Tk.747	49%
Real price	Tk.503	Tk.562	Tk.583	16%

Sources: BBS, 1992, 1997 and World Bank 2001

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Table 8: Expenditure elasticity for household of underdeveloped and developed villages

	Underdeveloped village	Developed villages
Crop	0.84	0.71
Livestock	1.29	1.59
Fisheries	1.19	1.22
Rural manufacturing	1.30	1.09
Urban manufacturing	1.46	1.56
Services	1.79	2.18

Sources: Hossain, 1989

Table 9: Changes in poverty situation from 1987 to 2000 in rural areas of Bangladesh

	1987	2000	Change
Head count ratio	59.2%	43%	16.2%
Poverty gap ratio	23.4%	16 %	7.4%
Squared poverty gap ratio	12.1%	8.4%	3.7%

Sources: World Bank web page

Table 10: Distribution of female participation in the agricultural and non-agric activities

	1961	1974	1981	1991
Agriculture (only)	91.8%	69.8%	28.0%	17.1%
Non-agriculture	8.2%	30.2%	72.0%	82.9%

Sources: Various Issues of BBS and 1960 Agriculture census

Changes in Poverty Situation: The poverty situation was the extreme and about 73.8% of rural population lived below poverty line in 1981 and it has reduced to 43% in 2000. The rural people now have easy access to the institutional support, health care, educational facilities, sanitation etc. The data in Table 9 shows that the poverty level of rural Bangladesh improved day by day.

Changes in Women Participation: The rural women were oppressed from ancient times. The women were made homesick and they only participated in household activities like cooking; drawing water, looking after the scavenging poultry, post harvest processing of crops and homestead gardening. Time passes and the awareness of rural women has increased. Now the women are participating in different activities going out of house too. It has been observed from Table 10 that about 82.9% women participated in non-agricultural activities in 1991 whereas it was 8.2% in 1961.

Micro-credit with income generating activities for rural women are becoming central elements of development initiatives in recent times. Various poverty alleviation programs both by government and NGOs have increased the employment opportunities of the women with a stress on self-reliance. The pressure to allow the women to greater role in economic activities has led to greater freedom for women.

Conclusion

The land area of farmers has decreased overtime and about 50% Of the rural people are under the category of no land or owner of the land below 0.40 hectares. They are considered as landless. Some people in these group posses only homestead land. Their homestead is as the way of life with both the agric and non- agric enterprises. This agriculture and non-agricultural activities should be an effective linkage of poverty alleviation and can play an important role for rural development.

Bangladesh is developing with non-farm activities supplementing of farm enterprises. It needs to build on the potentials of non-farm growth as prospective future strategy for alleviating poverty. This is required to consolidate and strengthen the process of diversification of rural livelihoods: (i) within agriculture form traditional crops to new and high value-added non-crop activities and (ii) away from agriculture to non-farm activities with better prospects for higher growth

NGOs have emerged as an integral part of the institutional structure for addressing poverty, gender equality, disaster management, environmental conservation, and other social issues. Cooperation between governmental and non-governmental organization has become an important feature of development strategy. This could lead the country towards future development of the rural economy.

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