

Agricultural Development in Comprehensive Village Development Program (CVDP) Area and Non-Comprehensive Village Development Area of Comilla: A Comparative Study

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Abstract

Purpose: This study compares the effectiveness of the Comprehensive Village Development Program (CVDP) and Non-CVDP models in the context of agricultural development in rural Bangladesh. The roles played by cooperative institutions in CVDP and non-CVDP villages in agricultural development initiatives based on agricultural extension in terms of the status of crops, vegetables, livestock, poultry, and fish farming so that the Bangladesh government can concentrate on the value of the CVDP model and implement it in the underdeveloped rural area.

Data and Method: The secondary data used in this research were gathered between 1990 and 2017 and provided in the form of tables and charts. The study's results are interpreted using the percentage approach. The purposive sampling technique is used to emphasize qualitative and quantitative analysis. Information is gathered from BARD, books, journals, and government reports.

Findings: The results of the study demonstrate that improved agricultural techniques, including the use of fertilizers and insecticides, were used in CVDP communities. However, there were no appreciable differences in the rice yield between CVDP and non-CVDP villages. Utilization of irrigation and realization of water charges have both increased in the CVDP zones. In all the communities, sophisticated farming machinery was utilized. The villages participating in the CVDP have established sales networks and expertise in raising livestock and poultry. Multiple ownership, theft, fish poisoning, etc. affected pond fish farming more in non-CVDP communities than in CVDP villages.

Practical Implications: The government may be able to restructure agricultural extension developments in Bangladesh according to the CVDP model with the help of the data gathered from the research once again.

Research Limitations: It is difficult to use recent data in the analysis due to a lack of past research on the topic in Bangladesh, limited access to relevant areas, and the absence of new studies in this field.

Value: The findings of this study complement those of earlier research that could not examine variances in agricultural growth (in terms of the output of agro products including rice, vegetables, cereals and vegetables, livestock, poultry, etc.

Keywords

Agricultural Development, CVDP, Non-CVDP, Comparative performance

INTRODUCTION

As in many other emerging economies, agriculture has historically been the major sector in Bangladesh. According to the census of 2022, 68.49% of Bangladesh's population lives in rural areas and more than 70% depends on agriculture for a living. A significant proportion of the poor relies on agriculture as the key source of income and employment. (World Bank Report: IBRD-IDA 2021 and The Daily Star report dated December 21, 2021). It is almost difficult to keep up with the rapid population expansion because of the agriculture sector's slow or constant growth and its smaller GDP share. Additionally, rural communities have very low levels of life expectancy, health, nutrition, literacy, and agricultural production. Given the aforementioned situation, it became imperative to try and reduce the issues by utilizing all of the relevant resources that are available in villages.

Early in the 1960s, Kotwali Thana Central Co-operative Association (KTCCA) Ltd. supported village-based cooperative institutions that initiated certain initiatives and activities in Comilla Sadar, the laboratory region of the Bangladesh Academy for Rural Development (BARD), Comilla. The only objective of the founding of these institutions was to provide support in the form of training, input services, and the development of relationships with related agencies to acquire the needed services and materials. To address the food shortage, modernizing the agricultural sector was first given top attention. Other areas were then given emphasis, including those related to education, health, nutrition, women's development, etc. But unless cooperative organizations were established and crop production increased, significant reforms in these sectors could not be made. Cooperative societies were seen to be deteriorating during the 1970s. The wealthy farmers were getting richer while the number of those without access to land was rising more quickly.

An initiative called the "Total Village Development Project" (TVDP) was started by the Bangladesh Academy for Rural Development (BARD) in 1975 as a result of the aforementioned circumstance, and it was later expanded to eight villages (Majumder, et al., 1990). After five years, a few issues with the project's area were found, especially since some of its parts couldn't be incorporated into the KTCCA Ltd. program. The anticipated connections to other institutions could not be guaranteed. The project's results were not at the markup level as a result. On the other hand, the abundance of organizations in one village with insufficient coverage of households and competing or overlapping activities made it difficult for self-reliant organizations to grow at the village level (Ahmed et al. 1984). BARD considered it important to combine all sectoral approaches into a single all-inclusive strategy for village development to confirm these issues. The "Comprehensive Village Development Program (CVDP)" was consequently introduced in Comilla Sadar thana in 1983 as a pilot program that covered 15 villages. Along with socioeconomic growth, this initiative improved horticulture, cattle, fisheries, and agriculture.

BACKGROUND OF CVDP

The concept of CVDP connotes that one village would have a multipurpose single institution to develop a package program for an integrated and total development of the village and to channel all sorts of services and supplies to the villagers through this institution. It is an institutional approach to solving any problem related to village modernization based on existing local resources according to the principles of cooperation, cooperative education, and democratic decision-making process. It was assumed that the institution would act as the platform of all development agencies irrespective of GOs and NGOs. This may gradually help to reduce duplication, proliferation, wastage, and inefficiency in the rural development sector and turn, contribute to the development of a sustainable process to build self-managed village institutions. (Karim et al., 2003; Gutlapalli, 2016)

Comprehensive Village Development Program (CVDP) is an institutional approach that was started in the late 1970s to solve rural problems through local resources mobilization and utilization according to the principles of cooperation, cooperative education, democratic decision-making process as well as establishing members' rights and privileges. The main activity theme of the CVDP is "one village one

cooperative” which was developed from the findings and understanding of the missing link of the Comilla Approach.

A village represents a community where a group of different classes with different problems live in the same place have common interests and frequently interact socially, economically, and politically. The class-based and problem-based approaches have not identified the village community. (Masud et al., 2017:13)

LITERATURE REVIEW

Several studies on various aspects of rural development and village cooperative were conducted in the last three decades. The main focus of these studies includes leadership and rural power structure, institution and management, credit utilization and repayment, share savings, investment, people’s participation and planning, cooperative education, motivation, use of modern technology and agricultural productivity, etc (Gutlapalli, 2017). But no comprehensive study has been found to access the contribution of cooperatives like CVDP and Non-CVDP in the agricultural development of the rural people. Issues and findings of the relevant studies on cooperatives have been reviewed and presented in this section.

Rahim, (1972), It was revealed from a study that in Comilla, average capital formation, loan absorption, per acre yield, marketable surplus, and per acre use of fertilizer and insecticides increased due to the influence of cooperative activities. Income, expenditure, asset, and investment patterns had also been changed after involvement in cooperatives. The findings of the study showed that the average income of farm households increased considerably. The significant degree of economic growth in the Comilla had been possible due to the regular supply of credit, materials, machines, and information by the central cooperative association to the individual farms through the village cooperative societies.

The FAO (1990) highlighted issues related to the performance of the Deeder Cooperative Village Development Society in terms of membership, management decision-making, capital formation, credit services, agricultural services, consumer services, welfare services, and income of the society. The findings of the study revealed that the society had been very successful in mobilizing its capital through weekly savings by its members and providing credit for various purposes. Society shows remarkable success in social harmony and solidarity. Villagers received new knowledge on modern agricultural training. Its weekly meetings acted as a forum for knowledge dissemination.

Karim (1992) observed through a case study on the Comprehensive Village Development Cooperative Society that the society contributed significantly to solving the problem of food shortage, low per capita income, unemployment and under-employment, and illiteracy in the command area of the society through different activities of the society, such as the provision of irrigation facilities; adoption and application of improved cultivation practices; constant contact and interaction with agriculture extension worker; and establishment of a primary school through cooperative effort.

Hye (1993) highlighted that the diffusion of sophisticated irrigation technology to farmers with modest and dispersed farm holdings was revealed from a study on the Comilla model of the cooperative as the two-tier cooperative's most significant success and long-lasting contribution. With the development of irrigation technology, HYV seeds, chemical fertilizers, and pesticides were used more frequently to boost food output.

Bari et al. (1994) mentioned that cooperative activities can bring about changes in the agriculture and non-agricultural sectors of the village. The society can help undertake different income-generating activities, such as rice mills; rickshaws; leasing of fish ponds for pisciculture; tractors; stock business.

Chowdhury et.al (1998) showed that fisheries are one of the major components of agricultural activities, playing a significant role in nutrition, employment, income generation, foreign exchange earnings, and the economy of Bangladesh as a whole. Chowdhury (1995) suggested that Community Based

Environmental Education has become an important component of the Comprehensive Village Development Programme (CVDP) for sustainable rural communities.

The Department for International Development (DFID) carried out a study. The study found that agriculture and fisheries cooperatives can support their members by providing the necessary education and training. They give their members access to the most recent technological knowledge and provide low-cost or credit-based inputs for their enterprises, such as seeds, machinery, chemicals, and fertilizers, as well as livestock and agricultural equipment, fishery nets, and other equipment. Fishing cooperatives told us that they had used the accumulated capital in the society to buy fishing boats that were then made available to the members or to restock a lake with fish. They also help members to sell their outputs. For example, dairy co-operatives collect milk from their members for sale, while agricultural marketing cooperatives collect other produce (such as rice, grains, tea, coffee, cashew nuts, mushrooms, and tomatoes). The co-operative can offer a higher price to their members for their produce than they would be able to get from private traders. It also provides market information so that members know when their produce will fetch the best price.

Karim et al., (2003:6) described that the CVDP societies initiate new activities like the use of appropriate technology, irrigation management and machinery services, livestock and fisheries development, non-farm income generating activities (business projects and marketing), educational development, woman and child development, health sanitation and nutrition development, environment development and social forestry, and social welfare activities, etc. Thus, the role of CVDP is comprehensive integrating every household and combining all the parallel agencies including NGOs through developing linkage with the relevant development agencies working for rural development.

Machete, (2004) The idea that encouraging smallholder agricultural expansion might be a useful tactic to lessen rural poverty and income disparity forms the basis for the justification for land reform. Ehsan Zia et.al, (2008) demonstrate how the long-term goal of agriculture and rural development is to guarantee the social, economic, and political well-being of rural communities, particularly poor and vulnerable people while promoting the integration of rural areas within the national economy. Findings of different studies show that cooperative societies contribute to various sectors of development, such as managing pests and diseases by pesticides; increasing power tiller, making integrated use of land; artificial insemination of livestock development, boosting up economic status; increasing cropping intensity and so on (Khan et al.,1999; Karim et al., 2003; Rahman and Roy, 2004). A recent study conducted by (Masud Rana and Beauty Nahida Sultana, 2017) it was found that according to the World Bank definition, they found that 23 respondents of the household out of 99 households are income below one dollar per day. They calculated it by following the headcount index:

$$P1 = (N_p/N) = (23/99) = 0.2323 = 23\%$$

P1=Head count index, N_p =Total number of the poor, N = Total number of samples.

So, here, we see that only 23% of individuals live in poverty. However, it was also shown that, before 10 years, 66 out of 99 households with responders had a daily income of less than \$1. They calculated it by using the headcount index.:

$$P0 = (N_p/N) = (66/99) = 0.6666 = 67\%$$

P0=Head count index, N_p =Total number of the poor, N = Total number of samples

It was discovered that 67 percent of people in this area are poor. After ten years of CVDP participation, it was shown that only 23% of people are regarded as living in poverty. As a result, we assert that CVDP is crucial for eradicating poverty.

OBJECTIVE OF THE STUDY

The objectives of this study that aims to fulfill can be stated briefly as follows:

- To show the differences between CVDP-affected and non-affected villages concerning the production of fish, poultry, cattle, and other crops.
- To track the extent of adoption of some enhanced methods in various agricultural fields.
- To assess the contribution of cooperative institutions in both CVDP and non-CVDP villages in agricultural development activities.

DISCUSSION

Role of Cooperative Institutions

In Comilla and other areas, cooperative institutions focused on the villages were founded in the early 1960s to aid in efforts for the general development of the communities. The development of agriculture with other sectors was one of the general duties of CVDP Cooperative organizations. Using the Comprehensive Village Development Society and other methods, CVDP's primary goal is to reduce rural poverty. By establishing connections with higher-level development organizations, and local resources.

The CVDP's Specific Goals

Sl. No.	Factors	CVDP covered area (%)	Non-CVDP covered area (%)
1	Increased agricultural production due to the irrigation service of the society	50	39
2	Investment in agricultural activities	Almost full credit amount	39
3	Increased family income through receiving training organized by the society	23	2.5
4	Increased food self-sufficiency, particularly rice	47-64	72-84
5	Lease or purchase of agricultural land	9	1.9
6	Increased income from livestock rearing	2	-
7	Raising awareness on fish and livestock development, Knowing improved agricultural practices, and dissemination of agro-based information	13	1.3
8	The growing interest in fish and livestock development by the motivation of the society	3	0.3
9	Fish production	2	0.7
10	Utilization of microcredit in Livestock rearing	33	9
11	Cattle Vaccination programs arranged by the society	17	1.8
12	Irrigation facilities at a lower rate	94	35
13	Capital accumulation through savings and share	15.8	31.1

Table A: Contribution of the Cooperative Institution in CVDP covered area and Non-CVDP covered area regarding agricultural development in Comilla (2008)

*Source: A comparative study of CVDP societies and Traditional cooperatives on Socio-economic development, BARD, Kotbari, Comilla, 2011

The CVDP's specific goals are to:

1. Utilize all resources to their fullest potential through the village cooperative society to ensure the overall socioeconomic development of all village groups and to establish the cooperative as a self-sufficient rural institution.
2. Boost household productivity and income, expand employment options across a variety of industries, and enhance production.
3. Reduce the wealth gap between the rich and the poor by collectively holding assets.
4. Encourage capital formation through village cooperatives and invest directly that will benefit the villagers.
5. Eliminate illiteracy and establish education for everybody, especially for the next generation.
6. Strengthens the members of the cooperative society's knowledge and technological understanding.
7. Implement family planning, nutrition, and health initiatives for all.
8. Develop village-level development personnel to encourage leadership.
9. Encourage women to take an active role as partners and contributors to the creation of efforts in society.
10. Create an annual plan through mutual discussion and implement it with the cooperation of the members.

11. Hold annual general meetings and other meetings regularly while adhering to the correct procedures, and
12. Eradicate all instances of theft, conflict, and crisis, and use mutual conversation to find solutions. (Karim et.al, 2003:4)

Agricultural Aspect

This study depicts a comparative picture of the different aspects of some CVDP villages and non-CVDP villages such as rice, crop and vegetable production, irrigation practices, livestock, poultry, and fishery activities. A brief description of these aspects is given below-

Rice and Vegetable Production

The statuses of rice production as well as vegetables in both the CVDP and non-CVDP villages were almost equal as shown by the study. In both CVDP and Non-CVDP, villages 100% of Boro crops were covered by HYVs. Coverage of HYVs in Amon crop was about 93% in CVDP and 87% in Non-CVDP villages respectively. Coverage of Rabi and Kharif vegetables was much higher in CVDP villages than in Non-CVDP villages. The reason for that may be due to the developed linkages with the extension services managed by the CVDP staff in these villages.

Name of crops	CVDP				NON-CVDP			
	Total land (ha.)	Total rice production (quintal)	Per hectare production (quintal)	Percent covered	Total Land (ha.)	Total rice production (quintal)	Per hectare production (quintal)	Percent covered
Boro HYV	36.77	1479.36	41.36	100	38.97	1511.46	38.78	10
Amon HYV	33.19	1290.90	38.90	93	34.08	1259.55	36.96	87
Local	2.14	59.71	27.90	6	1.98	46.28	23.37	5
Aus HYV	7.96	266.84	33.52	22	207	66.06	31.91	5.3
Local	0.14	3.73	26.64	0.4	0.32	522	16.31	0.8
Ravi vegetables	6.41	772.15	120.50	1720	3.51	392.98	111.96	9
Kharif vegetables	6.34	770.28	121.50	17.72	1.16	125.77	108.42	3

Table 1: Rice and Vegetable Production in the study villages S(1990-91).

*Source: Agricultural development in CVDP and Non-CVDP area of Comilla, BARD, Kotbari Comilla, 1993

Cropping Intensity

Cropping Intensity (CI) and yields of different crops are the most important indicators to measure the status of agriculture in an area. The CI of an area depends on the land available for cultivation throughout the year, farmers' motivation and interest to produce more crops from the same land, economic viability to produce more crops, marketing facilities for the produce, etc. The CI in both CVDP and Non-CVDP villages were almost equal (Table-2).

Types of Villages	Total cultivated land owned by the farmer(ha.)	Crop-wise cultivated area (ha.)	Cropping Intensity (Crop wise)	Cropping intensity %
CVDP	52.55	Boro-35.77	68.07	176
		Amon-35.33	67.24	
		Aus-8.09	15.40	
		Rabi-6.41	12.19	
		Kharif-6.84	13.01	
Non-CVDP	47.79	Boro-38.97	81.24	171
		Amon-36.67	75.18	
		Aus-2.39	4.99	
		Rabi-3.51	7.32	
		Kharif-1.16	2.42	

Table 2: Cropping Intensity in CVDP and Non-CVDP villages (1990-91)

*Source: Agricultural development in CVDP and Non-CVDP area of Comilla, BARD, Kotbari Comilla, 1993

However, the Non-CVDP villages were staying slightly behind the CVDP villages in this aspect due to the low coverage of Rabi and Kharif vegetables. In both cases, the CIs were higher than the national average of 159 percent (BBS 1989) in 1985-86.

Adoption of Irrigation

Adoption of an Irrigation system is necessary for growing additional crops during the dry season (Nov-Dec. to Feb-March) Both the CVDP and Non-CVDP villages are using groundwater technology for irrigation purposes. The average percentage of area under irrigation was 74.64 in the CVDP villages and 77.32 in the Non-CVDP villages. The irrigation water supply was more regular in the CVDP villages than in non-CVDP villages shown in Table -3.

Types of villages	Name of society Average	Average cultivable area of Farmer (ha.)	Average area under irrigation (ha.)	Percentage of are under irrigation	Average
CVDP	Joypur	0.93	0.74	79.57	74.64
	Patchkitta	1.20	0.76	63.33	
	Kalikapur	1.37	1.11	81.02	
Non-CVDP	Doyapur	1.10	0.89	80.91	77.32
	Son Gaon	0.97	0.68	70.10	
	Hossainpur	1.05	0.85	80.95	

Table 3: Average area of Land under Irrigation (1990-91)

*Source: Agricultural development in CVDP and Non-CVDP area of Comilla, BARD, Kotbari Comilla, 1993

Livestock and Poultry Production

Livestock and poultry are the most crucial sources of income for both farmers and non-farmers of rural people. Artificial insemination (AI) is a scientific method for developing the cattle breed. The people of CVDP villages were motivated to adopt A.I. in cows to get better calves. Poultry and livestock mortality can be easily minimized through preventive and curative methods of treatment. But the adoptions of these prophylactic activities were very poor in non-CVDP villages. The number of improved livestock and poultry is more in the CVDP villages than in non-CVDP villages. The status of improved and local livestock and poultry are shown in table-4.

Name of Animal	CVDP		Non-CVDP	
	Local Breed in %	Improved Breed in %	Local Breed in %	Improved Breed in %
Cattle	78	22	79	3
Sheep/ Goat	90	10	98	2
Chicken	91	9	100	-
Duck	46	54	90	10

Table 4: Status of improved and local livestock and poultry (1990-91)

*Source: Agricultural development in CVDP and Non-CVDP area of Comilla, BARD, Kotbari Comilla, 1993

Fish Production

Among many other physical factors, the depth and nature of the ponds are more important which in many cases directly or indirectly influence the productivity of the ponds. Production of fish ponds depends on various factors. Generally, through a semi-intensive method, a fertilized pond produces 2,725 kg per year while the production of a pond without fertilizer and feed does not exceed 500kg/ha per year (MPO-Vol.VII 1989).

Production of fish(kg)	No. of Ponds	Percent	No. of Ponds	Percent
247-494	13	23.64	27	49.09
495-741	11	20.00	14	25.45
742-988	9	16.34	4	7.27
989-1235	4	7.27	2	3.64
1236 and above	5	9.09	1	1.82

Table 5: Fish Production (Per ha.)

*Source: Agricultural development in CVDP and Non-CVDP area of Comilla, BARD, Kotbari Comilla, 1993

The present study reveals that in the non-CVDP villages, 40% of villages yield 247-494 kg/ha/year but in the CVDP villages only 23% of ponds had much lower yield. The number of higher-yielding ponds was found to be more in CVDP villages than that in non-CVDP villages' indicating better cultural practices in CVDP villages.

SUMMARY OF FINDINGS

The status of agricultural techniques, such as the application of manure, pesticides, fertilizer, etc., was better in CVDP villages. However, there was no discernible difference in rice yield between villages participating in CVDP and those not participating. The adoption of irrigation practices in this area is good. There had been no remarkable difference in adopting irrigation practices in both villages. But irrigation water was more readily available in the CVDP areas. The status of water charge realization was better in the CVDP areas. There was not much difference in using improved agricultural implements between the villages.

The CVDP areas performed better in terms of livestock, poultry, and fishing growth. In the CVDP villages, a better marketing network and knowledge of livestock and poultry production were built. Pond fish cultivation was also better advanced in the CVDP communities. In some CVDP villages, the established pond fishery project was for demonstration purposes and also for motivating the pond owners of the villages. But those kinds of programs and functions were almost absent in the non-CVDP villages, problems like multiple ownership, theft, fish poisoning, etc. which hampered the pond fish cultivation, were observed in both the CVDP and non-CVDP villages. But the extent of the problem was more in the non-CVDP villages.

CONCLUSION

The study demonstrates that there are differences between CVDP and non-CVDP communities in terms of agricultural production and practices. In CVDP communities, the farmer associations played a significant part in adopting and putting improved agricultural methods into use. Additionally, CVDP and other departments' extension agents worked in these communities with a greater network of functional systems. As a result, compared to non-CVDP villages, crop, animal, poultry, and fish production significantly rose in CVDP villages. However, if the program's management abilities and the management of the farmers' organization could both be improved, further progress might be possible. To achieve the development to a satisfactory level, it is crucial that several nation-building departments, including DAE, BADC, the livestock, fishery, and forest agencies, work together continuously and more frequently. In an attempt to better the socioeconomic situation of those living in more remote locations, the program activities may also be expanded to other regions of the country.

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