Bangladesh Journal of Extension Education *ISSN 1011-3916*
Volume 18, No.1&2, 2006:19-26 *Research Article*

Impact of Village Phone Credit on the Livelihood Improvement of the Borrowing Households

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Abstract

The study was undertaken to investigate the impact of Village Phone (VP) credit on the livelihood of the loanee households. Data were collected from 100 VP operators randomly by using interview schedule from the three selected unions of Sadar upazila under Mymensingh district. It was found that VP has brought positive changes in different types of livelihood capital, food intake and so on. The study reveals that positive changes in income and saving took place due to VP operation. Notable changes were also been taken place in case of physical, human and social capital. Average annual income earned from the VP constituted 31.42% of the total household income. The study reveals that 63% of VP operators indicated that their socio-economic condition got improved due to VP income. Logit regression was estimated to determine the effect of different socio-economic variables on the likelihood of welfare improvement; and it provided additional support that VP operation and income earned there from were actually instrumental for the overall welfare improvement of the borrowing household.

***Keywords**: Village phone, livelihood, households*

Introduction

Bangladesh is the most densely populated country of the world with 139th place in Human Resource Development Index. More than 42% of its people are still living below the poverty line. Agriculture contributes 21.91% to the GDP, which is the highest among other sectors while transport and communication sector contributes 10.01% to the total GDP. The people of Bangladesh have a live expectancy 64.90 years with a literacy rate of approximately 65% and per capita national income of 470 US$ (GOB, 2005). The country constantly faces different problems like poverty, under employment, illiteracy, malnutrition and vulnerability to frequent natural disasters. In spite of these problems, sectors like industry, information technology, and telecommunication are growing in a robust pace. In the recent times, Bangladesh has entered in the Information Super Highway. Bangladesh's booming mobile phone industry has emerged as a key driver of the cash-strapped nation's economy, creating nearly 240,000 jobs and adding 650

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million dollars to GDP. The mobile phone industry in Bangladesh employs 237,900 people directly and indirectly. The teledensity in the country, which was less than 1% in 1997 and one of the lowest in the world, less than nine years, it has jumped to more than 6% (Uddin, 2006).

Village Phone (popularly known as Palli Phone) is a relatively new idea, but it operates as an offshoot of an idea with a 23-year track record, which is Grameen Bank's micro credit program. A Grameen Bank member obtains ownership of the phone under the lease-financing program of the bank and provides modern telecommunication services to the people in the adjoining area, covering both outgoing and incoming calls. Grameen bank collects the VP bills along with its other dues. Grameen believes that very soon, VP will attain the position of being the largest wireless pay phone project in the World. Initiated in 1997, the VP programme has continued to grow at a robust pace over the years. As of end April 2006, there are more than VP 209765 subscribers (Yunus, 2006). The study was undertaken keeping the following objectives in mind:

i. To determine the socio-economic status of the Grameen Village Phone operators in the study area;

ii. To assess the impact of Village Phone on the livelihood of the borrowing households;

iii. To ascertain the factors influencing the livelihoods of Village Phone borrowing household.

Methodology

Selection of the study area is an important step for conducting any study. It depends on the objectives or purposes set for the study and where the concerned commodity or work is available. The researcher himself conducted a preliminary survey in Mymensingh Sadar upazila to achieve the objectives of the present study. On the basis of preliminary information, Vhabkhali, Boyra and Dapunia union were selected purposively because of the existence of a large number of Village Phone operators in these unions. A total number of 100 VP operators who operated VP for at least two years were randomly selected from the 728 VP operators list collected from Grameen Bank. Data were collected during January to March 2006 by interviewing the sampled VP operators using interview schedules to achieve the ultimate objectives of the study.

A logit regression was estimated to determine the overall welfare improvement of the household due to VP earning. Overall socio-economic well-being was the dependent variable in the study. The dependent variable was dichotomous measuring whether socio-economic well being of the VP operators household became improved or otherwise, after two years of VP operation. The positive response in terms of socio-economic well-being was given a score of one while a zero was assigned for otherwise. The selected nine variables such as income, land, household furniture, agricultural equipment, mobile operation capacity, exposure, relationship with in–laws, decision making ability, social prestige from different capital items were included as independent variable in the model and coded same way in the form of one and zero as the dependent variable. The model was estimated using SPSS.

Findings and Discussion

Socio-economic background of the respondents (VP operators)

Table 1 shows the salient features of the selected characteristics of the VP operators. It was found that most of the VP operators (74%) belonged to middle-aged group while 22% and 4% constituted young and old aged category.

Table 1. Distribution of VP operators according to their selected characteristics

Characteristics	Categories	Respondent		Mean
		No.	Percent	
Age (years)	Young (up to 25)	22	22	
	Middle aged (26-45)	74	74	34
	Old aged (above45)	4	4	
Education	Primary	1	1	
	Secondary	37	37	
	S.S.C	55	55	-
	H.S.C.	7	7	
Occupation	Agriculture/Farming	2	2	
	Business	40	40	
(Main)	Mobile operation	56	56	-
	Others	2	2	
Household head status	Respondent himself	43	43	
	Father	54	54	-
	Elder brother	2	2	
	Mother	1	1	
Education of the household head	Primary	02	02	
	Secondary	28	28	
	S.S.C.	52	52	-
	H.S.C.	16	16	
	Above	2	2	
Occupation of the household head	Agriculture	20	20	
(main)	Business	40	40	
	Service	04	04	-
	Mobile operation	36	36	
Family size	Small (below 4)	26	26	
(in number)	Medium (4 to 6)	55	55	5.56
	Large (above 6)	19	19	
Farm size	Landless (up to 0.5)	28	28	
(In acre)	Small (0.51-2.47)	51	51	
	Medium (2.48-5.00)	21	21	1.54
	Large (above 5)	0	0	
Annual income of the household	Low (up to 1)	19	19	
(in lakh)	Medium (1.1-2.0)	61	61	210354
	High (Above 2)	20	20	

Note: As the sample size was 100 so the number = percent

Operators having education level – secondary, SSC and HSC constituted 37, 55 and 7%. Only 1% had up to primary level education. Two percent of the VP operators surveyed for this study indicated that their main occupation was farming. Mobile operation was shown as a separate occupation because of earning major portion of income from it, was 56% and business constituted 40%. Most of the household head (54%) were father of the respondent. Forty three percent VP operators were the heads of the family while headship occupied by mother only 1%. Education level of the household head having secondary, SSC and HSC constituted 28, 52 and 16% respectively. In case of occupation, 40% of the household head involved in business while mobile operation, agriculture and service constituted 36, 20 and 4%.

The study revealed that majority of the operators (55percent) had medium family while 26 and 19% had small and large family respectively. Table 1 clearly shows that most of the VP operator's households (51%) were small farm. Landless and medium farm families constituted 28 and 21% respectively. There was no large farm among the selected VP operators household. In case of household income, most of the VP operator (61%) had medium level of income while low and high-income level having 19 and 20% respectively.

Impact of VP on the livelihood of the household

Impact of Village Phone credit on the livelihood improvement of the phone-owning households was the main focus of this study. The degree of change of different types of livelihood capitals were classified into three categories such as increased, unchanged and decreased. Table 2 indicates percentage of VP operator's response to their livelihood capitals change.

Table 2 reveals that 35% of the VP operators responded that their households saving got increased after taking VP while 65% indicated that no change in their household saving has taken place. In case of income, 72% of the VP operators felt that their household income got increased due to income earned from VP while the rest 28% respondents mentioned that no change in income took place.

For a better understanding regarding the particular item wise change, perception indices (PI) were computed. The PI was calculated by multiplying the frequency counts of each cell of a degree of change with its corresponding weights such as 2 for "increase", 1 for "unchanged" and 0 for "decreased". By adding all the values of each cell together the score of PI was obtained. The PI ranges from 0 to 200 in this particular case where 0 indicates no improvement and 200 implies maximum improvement.

According to the PI, all the different types of capital items registered some improvement. The top five improvements areas were relationship with in-laws (Rank 1), income (Rank 2), household furniture (Rank 3), mobile operation capacity (Rank 4) and exposure to outsider (Rank5). Improvements were observed to be relatively lower for the addition to stock of mobile set, cattle and land (purchased) as the rank order suggests.

Table 2. Changes in different types of livelihood capitals according to their response

Types	Degree of change			PI	Rank Order
	Increased	Unchanged	Decreased		
Saving	35	65	0	135	11
Income	72	28	0	172	2
Addition to stock of land (Purchased)	06	94	0	106	15.5
Land (lease/mortgage)	14	82	4	110	14
Pond	12	88	0	112	13
Addition to stock of Furniture	63	37	0	163	3
Addition to stock of TV	40	60	0	140	9
Addition to stock of Mobile set	0	100	0	100	17
Addition to stock of Cattle	16	74	10	106	15.5
Agricultural equipment	48	52	0	142	7
Mobile operation capacity	59	41	0	159	4
Writing/reading ability	40	60	0	140	9
Exposure to outsider	58	42	0	158	5
Relationship with in-laws	76	24	0	176	1
Decision making ability	43	57	0	143	6
Social prestige	40	60	0	140	9
Conflict resolution	26	74	0	126	12

Changes in food intake

A large segment of population in Bangladesh lives below the recommended calorie intake of 2112 cal/day. As it is difficult to determine the quantitative changes of food intake, it has been attempted by the researcher to identify qualitative changes of the same. Because of income earned from VP, different types of food intake of the household changed largely. Table 3 shows the nature of changes in food intake due to VP earning.

It is clear from the Table 3 that 60% of the VP operator responded that their vegetable intake has increased while 56, 54 and 52% supported that their fish, meat and fruits consumption has increased due to income earned from VP. In case of rice and wheat minimum changes has taken place. None said that their food intake got decreased after involvement with VP operation.

Perception index (PI) of VP operators on 9 food items ranged from 102 to 160 against a possible range of 0 to 200.The PI for all the food items show some improvement. However vegetables (160), fish (156), meat (154) and fruits (152) were the top four food items whose intake improved notably.

Table 3. Changes in food intake

Types	Degree of change			PI	Rank order
	Increased	Unchanged	Decreased		
Rice	08	92	0	108	8
Wheat	02	98	0	102	9
Fish	56	44	0	156	2
Meat	54	46	0	154	3
Egg	20	80	0	120	7
Pulse	26	74	0	126	6
Fruits	52	48	0	152	4
Vegetables	60	40	0	160	1
Milk	34	66	0	134	5

Changes in health and sanitation

Health and sanitation largely influences on the livelihood of the households. The people of Bangladesh are still suffering from malnutrition, lack of pure drinking water and inefficient health services. Table 4 represents the changes taken place in health and sanitation condition of the VP operator's household.

Table 4 indicates that 16% of the VP operator opined in favour of improving their drinking water condition while 40, 62, 64 and 26% responded that their toilet condition, Medicinal facility, clothing and housing condition respectively has improved due to income earned from VP.

PI in the Table 4 indicates some improvement in health and sanitation facilities. Highest improvement has been taken place in case of clothing (Rank 1), then medicinal facility (Rank 2), toilet condition (Rank 3), housing (Rank 4), and drinking water (Rank 5).

Table 4. Changes in health and sanitation

Types	Degree of change			PI	Rank order
	Improved	Unchanged	Declined		
Drinking water	16	84	0	116	5
Toilet condition	40	60	0	140	3
Medicinal facility	62	38	0	162	2
Clothing	64	36	0	164	1
Housing	26	74	0	126	4

Factors affecting the likelihood of the socio-economic improvement

In order to explain the likelihood of improvement in the overall socio-economic condition, various factors were used to estimate a logistic regression. The results are presented in Table 5. In case of logistic regression the convention is to interpret the odd ratios not the co-efficient. Odd ratios were computed (computer out put provide the odd ratios directly) by taking the anti log of the co-efficient.

Table 5. Result of logistic regression on the socio-economic well-being

Variables	Co-efficient	S.E.	Sig.	Odds ratio
Income	3.796*	1.059	.001	44.512
Land	.818	1.258	.539	2.267
Household furniture	2.291**	1.090	.046	9.880
Agricultural equipment	4.170*	1.328	.003	64.701
Mobile operation capacity	.340	.869	.697	1.404
Exposure	1.407	1.028	.173	4.082
Relationship with in laws	3.628**	1.575	.018	37.621
Decision making ability	2.396**	1.140	.027	10.974
Social prestige	2.238**	1.017	.045	9.377
Constant	-10.681	2.845	.000	.000
Likelihood ratio		41.500		
Cox &Snell R-square		0.595		
Nagelkerke R-square		0.812		

** Significant at 5% level, **Significant at 1% level*

In case of income, the odd ratio was 44.51 meaning that the likelihood of the socio-economic improvement appears to be 44.51 times higher for those VP operators whose income increased due to VP earning as opposed to those whose income either remained unchanged or decreased.

Among the nine independent variables, it was found that six variables had significance influence on the dichotomous dependent variables. The forgoing discussion provides enough evidence that significant improvement in the socio-economic well-being and livelihood improvement has taken place due to operation and earning of income due to VP. In all the indicators namely, the different livelihood capitals and food intake, the changes are positive. These are evident for the tabular analysis and perception indices. The logistic regression once again provides supportive evidence to these as well.

Conclusion

Village Phone has brought a great revolution not only in communication particularly rural areas but also has provided an income earning opportunity of the households of the GB members. The VP has achieved the following:

- The VP operation has contributed greatly to improve the livelihood of the phone owning households.
- Agricultural trade and marketing information are being readily used by the traders in their decision-making to buy and sell commodities. Therefore, access to VP has minimized the loss due to non-availability of price information. This appears to be a very big profit for the farmers and traders.

- VP provides the opportunity of additional employment and many housewives, who were sitting idle, have become active in dealing with VP business.
- VP provides opportunity to earn income and help them take up VP operation as a main source of income generation.

References

GOB. 2005. *Bangladesh Economic Review*, Economic Division, Ministry of Finance, Government of the People's Republic of Bangladesh, Dhaka.

Uddin, M.A. 2006. Mobile Phone Revolution in Bangladesh, Monthly Professor's Current Affairs, June 2006, pp. 72-73.

Yunus, M. 2006. Grameen Bank at a Glance. URL: http://www.grameenbank.com.