

**KNOWLEDGE ON VEGETABLES PRODUCTION ACTIVITIES BY
WOMAN MEMBERS IN HOMESTEAD AREA UNDER WORLD
VISION PROJECT**

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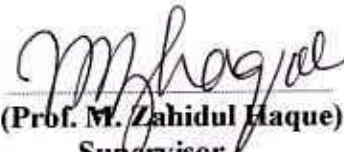
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A Thesis
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CERTIFICATE

*This is to certify that the thesis entitled, "knowledge on vegetables production activities by woman members in homestead area under World Vision Project". Submitted to the Department of Agricultural Extension and Information System, Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE in AGRICULTURAL EXTENSION AND INFORMATION SYSTEM** embodies the result of a piece of bonafide research work carried out by **Mohammad Nazrul Islam**, Registration No. 01056 under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma*

I further certify that such help or source of information, as has been availed of during the course of this investigation has been duly acknowledged

Dated:
Dhaka, Bangladesh


(Professor M. Zahidul Haque)
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Dedicated To

My Beloved Parents

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KNOWLEDGE ON VEGETABLES PRODUCTION ACTIVITIES BY WOMAN MEMBERS IN HOMESTEAD AREA UNDER WORLD VISION PROJECT

ABSTRACT

The study was conducted in Narayanpur union of Matlab upazila under Chandpur district. The specific objectives of the study were: To (i) determine the socio-economic characteristics of the respondents in homestead vegetables production activities, (ii) determine the knowledge on vegetables production in homestead area by the women members, (iii) assess the relationship between knowledge on vegetables production in homestead area and selected characteristics of the woman members and (iv) identify the problems encountered by the woman members in producing vegetables. Five villages were purposely selected out of ten from the World Vision Project area of Matlab upazila. Hundred woman members were chosen through stratified random sampling method. In the entire study group, majority (66%) were around 30 years of age. Nearly 74% respondents were illiterate and educated and the average schooling was nearly 6 years. Their average years of experience in vegetables cultivation were little. Out of 10 problems the respondents were faced severe problem on lack of fertilizer and irrigation facilities (rank order 1) and the lowest problem were faced on market facilities (rank order 10). The highest proportion 54% of the respondents possessed high level knowledge in vegetables cultivation, followed by moderate level knowledge 40% and very few 6% possessed low level knowledge.

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ABBREVIATIONS

WVP	World Vision Project
HVP	Homestead Vegetables Production
BBS	Bangladesh Bureau of Statistics
BRDB	Bangladesh Rural Development Board
RHAP	Regenerative Homestead Agricultural Programme
APOs	Agricultural Programme Organizers
UNDP	United Nations development programme
VEOs	Village Extension Officers
BARI	Bangladesh Agricultural Research Institute
BRRRI	Bangladesh Rice Research Institute
BARD	Bangladesh Rural Development Academy
SAAO	Sub Assistant Agriculture Officer
PCI	Problem Confrontation Index
BS	Block Supervisor
No.	Number
%	percent



Chapter I

Introduction

CHAPTER - I

INTRODUCTION

Woman constitute about 48 percent of the total population in Bangladesh and majority of them living in rural area (Hussain *et al*, 1988) can play a crucial role if they are properly involved in agricultural production and other income generating activities as well as in decision-making process.. The population of Bangladesh, like other developing countries, has been suffering from deficiency of nutrients including proteins and fats as well as vitamins and minerals, inviting a variety of diseases. Homestead vegetable production activities can play a vital role in poverty alleviation by increasing food production as well as raising the nutritional status of the people (Anonymous, 1990)

Since Bangladesh has agro-based economy, integration of women with mainstream agro-rural development processes is of vital importance. Women's participation in agricultural and other income generating activities may be considered as one of the components of realizing women's potentialities in the development undertakings.

Homestead refers, to home and adjoining land occupied by a family for a purpose, such as small-scale agricultural production, home upkeep, sanitation, health and nutrition (Ninez, V. K. 1984). Population of Bangladesh was' 138.6 million (BBS 2007) and this number has been increasing with time. Bangladesh has about 16.5 million households, of which 14 million are rural (BBS 2007). Of the 8.4 million ha. of cultivable land, only 0.40 million ha. (Approximately 5 %) are homesteads. Country's cultivated land is being increasingly occupied by homesteads to accommodate the increased population, industries and other developmental enterprise. It is hard to make a farm family self-sufficient only with the production of field crops.

Moreover woman play a dominant role in food production process in homestead in general husband, children and other family members are less involved in making decisions on growing vegetables (Chowdhury;*et al* 1992)

The contributions of rural woman in Bangladesh are largely unorganized. They are very well contributors to agricultural and economic production along with household activities. The Bangladesh Rural Development Board (BRDB), the Grameen Bank, the Bangladesh Rural Advancement Committee Bangladesh the World Vision Project, and many other Non-Government Organizations (NGOs) have been trying to motivate rural

poor woman by organizing them in formal or informal groups for homestead vegetable production and other developmental activities.

Woman's participations in rural development, more particularly in agricultural development in Bangladesh are the most important strategy designed to improve the social and economic life of specific group of farming community. In the existing socio-economic condition of the country, activities of most of the rural woman are confined to the homestead where they are involved mostly in the household and agricultural activities. But their contribution to agricultural production is seldom recognized or even if recognized, it is grossly underestimated, and woman have yet to be incorporated in a comprehensive way as a specific target of national and rural development programs to enhance their level of contribution. It may be noted that they are included primarily as the recipient of social services with very little emphasis on, their socio-economic and other associated roles. This situation is made more difficult by the prevailing social customs which

Prevent woman from participating in farm and other activities outside the homestead and restrict them only to specific areas.

Homestead vegetables production has manifold advantages. It provides nutrients food to the dwellers; generate income, employment and goods to trade. They are quick growing and yield immediate returns to the growers. Vegetables are quick growing and comparatively cheaper sources of vitamins and minerals. In a poor society house food production is essential in providing high quality carbohydrates and micronutrients which cannot be purchased by low-income families. Homestead agriculture may be a lifeboat for their survival and existence because of secured supply of food, petty cash, etc. (Ninez, 1986)

Their consumption in sufficient quantities provides taste, palatability and increases appetite and provides fair amount of fibers. It is recognized that vegetables are considered as important vegetable for maintenance of good health and are beneficial in protecting against some degenerative diseases.

Vegetables are important food item as any other items of our daily life. In the context of Bangladesh, vegetables can definitely help to solve many problems like food shortage, nutritional problem, unemployment, low land use efficiency etc. The benefit that can be

obtained by growing more vegetables may be as follows:

- a) Source of high economic benefit,
- b) Substitute of grain crops,
- c) Utilization of fallow land,
- d) Vegetables export,
- e) Agro-based industry,
- f) Health improvement etc.

So, the findings of the above study will be able to provide guidelines to the policy makers for widespread diffusion of vegetable production program in Bangladesh (Source: Choudhury, 1995. HRT 501 course material)

World Vision Project

WOMEN OF VISION is a volunteer ministry of **WORLD VISION**, an international Christian humanitarian organization that has served the poor throughout the world since 1950 through emergency relief and long-term commitment to community-based outreach and development. Tackling the root causes of poverty, **WORLD VISION** provides annual assistance to more than 100 million people in nearly 100 countries worldwide, including the United States. **WOMEN of VISION** work within the framework of existing **WORLD VISION** projects in an effort to alleviate the injustice and inequities that exist for the poor.

WOMEN OF VISION'S MISSIONS is to demonstrate tangible evidence of God's love to oppressed and impoverished women throughout the world. They seek to educate and motivate women to become women of action who invest their time, intellect, compassion, creativity, and finances to meet the needs of suffering women and their children. They are women of diverse age, background, and circumstances who are willing to risk, grow, change and who have been touched by the love of Christ. They are willing to use our God-given resources to improve the quality of life of women and children living in poverty and despair.

World Vision broadens to its response Four World Vision assessment teams have traveled to areas outside their normal project areas to begin planning a general response based on the situation and need in these areas. The teams met with the Deputy

Commissioners of Barguna, Bagerhat and Patuakhali districts. With villagers caught off guard in these districts, the cyclone demolished houses, crops, trees and shrimp farms over thousands of kilometers. The official death toll in these three districts had been the highest with Bagerhat being the worst affected. Most of the deaths were caused by drowning in tidal surge, collapsing houses and falling trees. Mr. Saibal Sangma, Operations Zonal Coordinator, WV Bangladesh, is heading the assessment. He says, "The local government is happy to work along with World Vision. They have informed us of specific areas where World Vision could take up emergency relief operations."

United Nations Report The United Nations has said that food; shelter and cash represent the three highest priority areas for assistance in its first assessment report released today on the Cyclone Sidr. In a report that looked at the nine worst-affected districts, the UN also said that sanitation and drinking water assistance is badly needed.

According to the report, the total number of houses damaged is nearly 1.2 million. Approximately 30% of these are reported as fully damaged, and the remaining 70% partially damaged. In many Upazilas more than half of thatched-roof homes, primarily inhabited by the extreme poor, were completely destroyed.

In addition, the report estimated more than 8,000 educational institutions have been damaged according to the latest available Government of Bangladesh situation report. Large quantities of educational materials, including books and furniture, have been destroyed.

Carried out with the support of the Government of Bangladesh and NGOs

Working on relief in the area, the report assessed the damage caused as well as made recommendation on possible response.

Some of the key excerpts of this report are:

- Damage to livelihoods is large, in particular the fisheries and agricultural sectors will need strong support.

- The timing of the cyclone was particularly harmful, in that many of the crops were at or nearly ready for harvest. A quarter of ready-to-harvest crops have been destroyed. Many households lost their food stocks as a result of severe damage to housing.
- Food prices were already high prior to the storm due to high international food prices and earlier flood-related losses, prices are expected to stay high for the near to medium term.
- While the report recommended that relief food and shelter assistance was the most urgent need, it also emphasized the need for drinking water, sanitation and restoration of medical facilities. Coordination of relief efforts was also highlighted as a key need.

Statement of problems

In order to understand the comparative importance of different problems and to identify their severity, the 10 problems were arranged in rank order (Table-13). Most serious problem faced by the rural women during homestead vegetable production activities was shortage of fertilizer and irrigation water for vegetable production, followed by lack of improved seed, lack of capital and others facilities Nevertheless the full achievement could not be made due to Inadequate fertilizer and irrigation facilities, inadequate help from SAAO, lack of improved seed, lack of cash money and others problems such as pesticide, storage facility.

Specific Objectives:

The specific objectives of the study:

1. To determine the socio-economic characteristics of the respondents in homestead vegetables production program. These are:
 - Age
 - Education
 - Farm size
 - Area under vegetables cultivation,
 - Annual income
 - Income from vegetables production,
 - Training on vegetables cultivation,
 - Experience on vegetables cultivation
 - Input facilities provided from the World Vision



2. To determine the knowledge on vegetables production in homestead area by the woman-members.
3. To assess the relationship between knowledge on vegetables production activities in the homestead area and the selected characteristics of the woman-members.
4. To identify the problems encountered by the woman-members in producing vegetables.

Scope and Limitations of the study

Considering the amount of time, money, and other resources are available to the researcher and to make the research meaningful and manageable from the practical point of view, the study was limited by following constraints:

1. The study was confined to "Narayanpur Union vegetable production program in homestead area of women-members" under World Vision Project at Matlab upazila in Chandpur district.
2. In accomplishing the objectives the researcher depended on the information furnished by the respondents.
3. Population of the study was limited within the group members of the woman associations.

Assumptions

The assumptions were:

1. The selected respondents are capable of providing proper answer to the questions included in the interview schedule.
2. Views and opinions provided by the respondents included in the sample are the representative of the population.
3. The answers furnished by the respondents were reliable. They were truthful in expressing their convictions and opinions. The findings of the study were in particular, applicable to Narayanpur union under Matlab Upazila of Chandpur district. However, the findings might also be applicable to others areas in Bangladesh where the physical, socio-economic, cultural and geographic conditions did not differ much from the study area. Thus, the findings will be useful to the students, researchers, extension workers and particularly the planners of World Vision Program in formulating and redesigning the extension services and programs

Hypothesis:

There is no relationship between the knowledge on vegetable production program with the selected characteristics of the respondents:

Age, Education, Farm size, Area under vegetable cultivation, Annual income, Income from vegetable production, Training on vegetable cultivation, Experience on vegetable cultivation, Knowledge on vegetable cultivation and Input facilities provided from the World Vision Project.

Definitions of Operational Terms

Age: Age was defined as the period of a respondent from her birth to the time of interview. It was measured in terms of years.

Education: Level of education was defined by years of schooling. A respondent who did not know how to read and write, her education score was assigned as zero (0) and who can sign only, her score assigned 0.5. Besides, the respondent got actual scores of her years of schooling, i. e. 1 for class one, 2 for class two and so on.

Homestead area: Homestead area of a respondent was referred in terms of actual homestead holdings. It was expressed in terms of ha.

Farm size: Farm size was referred by asking the respondents about the land area under whose possession of full benefit which is as follows:

$$L_t = A_1 + 1/2 (A_2 + A_3) + A_4 - A_5$$

L_t = Total land possessed.

A_1 = Own land under own cultivation

A_2 = Land taken from others on barga system

A_3 = Own land given to others on barga system

A_4 = Land taken from others on lease basis

A_5 = Own land given to other on lease basis

Area under vegetables cultivation: Area under vegetables cultivation was referred by the area of land under her management only for vegetables cultivation. The area was estimated in terms of full benefit to farmers or her family. The unit of measurement was in ha.

Annual income: Annual income of a respondent was defined in taka annually earned by the family members including her. Annual income of the family expressed in taka which included income from farming, non-farming and other sources.

Income from vegetables cultivation: Income from vegetable cultivation of a respondent was defined in taka annually earned by vegetables production.

Training on vegetables cultivation: Training of a respondent was referred by the number of days a respondent trained on questions in vegetable cultivation. The measurement included from the day of starting training on vegetable cultivation and till the day of data collection

Experience on vegetables cultivation: Vegetables farming experience of a respondent was defined by the number of years a respondent engaged in vegetables cultivation. The measurement included from the year of starting to first vegetables cultivation till the year of data collection.

Knowledge on homestead vegetables production: It referred to the awareness of the woman about different activities related to vegetables production which one performed in the homestead area.

Input facilities provided from World Vision Project: Input facilities from World Vision Project was converted into taka. How respondents were benefited and improved their knowledge on vegetables production was main discussion point.



Chapter II

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

This chapter deals with the review of past researches related to this investigation. The reviews are conveniently presented based on the major objectives of the study. In spite of sincere effort, adequate numbers of directly related literature were not readily available for this study. However, the literatures of available studies have been briefly discussed in this chapter.

2.1 Review of knowledge on Vegetables production Program by the Woman-members

Reddy and Devi (1984) found that allied agriculture activities (the activities jointly done by husband and wife) were mostly performed by the woman of high and medium economic categories as compared to those of low economic category. There was no significant difference between role expectation of husbands and the role performance of rural woman. It was observed that majority of rural women belonged to the high and medium economic categories did not go out for to farm operations. The study further revealed that farm women of low economic category participated much in farm operations, on the other hand, farm women of high and medium economic categories participated to a great extent in allied farm operations.

Shalaby (1991) revealed that woman engaged in gardening to supplement incomes and to provide food for the family. Almost 30% of the farmers did not buy vegetables from the market, and claimed to be totally self sufficient in these products.

Safilios et al. (1989). Reported that household production was in the hands of women. The major tasks and decisions regarding homestead crops and spices were the responsibility of the women in all except the large farm households.

Islam and Ahmed (1987). found that landless, marginal and small farm households concentrated primarily on vegetable and spice cultivation, large and medium farm households cultivated more often fruit and timber trees.

Review of studies exploring relationship between independent variables and their knowledge on of exploring vegetable production program. Age and the extent of vegetable production

Hossain (1990) found that age did not show any relationship with yield of Boro crop. Education and the extent of vegetable production

Hossain (1990) reported that farmers' level of education was positively correlated with their yield of Boro crop.

Soemarwote and Conway (1991) reported that in Java, the home gardening had a greater diversity of production and frequently produced a higher net income.

2.1.1 Relationships of age with knowledge,

Saha (2003) found no relationship between poultry farmers' age and their knowledge on poultry production.

Sana (2003) found in his study there was no relationship of age with their knowledge in shrimp farming.

Sarker (2002) conducted a study on farmer's knowledge of and attitude towards BRRI Dhan 29 variety of rice and found that the age of the farmers was not related to farmer's knowledge on BRRI Dhan 29.

Saha (2001) Made an attempt on farmer's knowledge on improved practices of pineapple cultivation and found that the age of the farmers had no significant relationship with their knowledge on improved practices of pineapple cultivation.

Rahman (2001) conducted a study to determine the knowledge, attitude and adoption of the farmers regarding Alok 6201 hybrid rice. He found that age of the farmers was not related to farmer's knowledge on Alok 6201 hybrid rice.

Hossain (2000) in his study found that age of the farmer's had no significant relationship with their knowledge on Binadhan-6 technology.

Islam (1993) observed that the age of the BSs had no significant relationship with their knowledge on modern agricultural technologies.

Rayaparaddy and Jayaranaiah (1989) worked on Village Extensions Officer's (VEOs) knowledge of rice production technology, and found that age of the VEOs showed negative relationship with the knowledge level of VEOs.

Rahman *et al.* (1988) conducted a study on health cover practices of poultry and found that 26% of the farm women possessed low level of knowledge while 4% possessed medium level and none possessed high level of knowledge. They showed positive relationship between knowledge and age.

Chandargi (1980) found that there was significant association between age and knowledge gain as a result of training. Mundhua and Patel (1987) found that the farmer's age and their level of knowledge had a significant relationship.

2.1.2 Relationships of education with knowledge.

Saha (2003) found among the six independent variables, only education was positively and significantly related at 0.01 level of probability with poultry farming knowledge.

Sana (2003) found that education of the shrimp farmers were found to be significantly related with the knowledge of shrimp culture.

Sarker (2002) conducted a research on farmer's knowledge of and attitude towards BRRI Dhan 29 variety of rice and found that education of the respondents had positively relationship with their knowledge of BRRI Dhan 29.

Saha (2001) found that the education of the farmers had a positive significant relationship with their knowledge on improved practices of pineapple cultivation.

Hossain (2000) found that the education of the respondents had significant positive relationship with their knowledge on Binadhan-6.

Islam (1993) found that the general education of the BSs had no significant relationship with their knowledge on modern agricultural technologies.

2.1.3 Relationships of farm size with knowledge.

Sana (2003) found in his research that there was no relationship of farm size with their knowledge in shrimp culture.

Sarker (2002) also found that there was a positive relationship between farm size of the farmers and their knowledge of BRRI Dhan 29.

Hossain (2001) in his study found that farm size of the farmers was significantly related to farmer's knowledge of crop cultivation.

Hossain (2000) found that farm size of the farmers had no relationship with their knowledge of Binadhan-6.

2.1.4 Relationship of area under vegetables cultivation with knowledge.

Ali (1984) observed that farm size of the contact and non-contact farmers had significant positive contribution to their agricultural knowledge.

Sharma and Sanoria (1983) found that no significant differences in knowledge of both the contact and non-contact farmers with their operational holding size.

Ali (1984) reported that agricultural knowledge and adoption of agricultural innovations are highly correlated. Anwar (1994) also found the same finding from his study.

Estep (1985) reported that having more technical knowledge and a desire to seek actively few information about improved practices were important factors in relation to adoption of improved farm practices.

2.1.5 Relationship of annual income with knowledge.

Ali (1984) also found that income of the contact and non-contact farmers differed significantly. He also found that income of the contact and non-contact farmers had significantly positive contribution to both of their agricultural knowledge and adoption of innovations.

Hossain (2003) found that income of the rural woman farmers had negative relationships with their knowledge of modern Boro rice cultivation.

2.1.6 Relationship of income from vegetables cultivation with knowledge

Nurzaman (2000) found that incomes of the rural women farmers had no relationships with their knowledge of the FFS and non-FFS farmers.

Ali and Anwar (1987) categorized farmers as low, medium and high on the basis of their problem confrontation score. Sixty one percent of the respondents were under medium problem confrontation categories, 39 percent were under high problem confrontation categories and no respondent was under low problem sericulture, mushroom culture and fruit preservation might generate extra employment opportunities for the farm women specially female rural youth and gradually they will proceed to these operations.

2.1.7 Relationships of training received with knowledge.

Sana (2003) found that training received of the farmers had a positive significant relationship with their knowledge in shrimp culture.

Hossain (2001) found that the length of the training of the respondents had positive relationship with their knowledge of crop cultivation.

Mannan (2001) in his study found that the training received by the farmers had a positive significant relationship with their knowledge on food and nutrition.

2.1.8 Relationships of experience with knowledge

Rayaparaddy and Jayaranaiah (1989) wording on village extension officer's (VEOs) knowledge of rice production technology found that training had significant positive relationship with the knowledge level of VEOs.

Setty (1973) revealed that there was no association between overall knowledge of Gramsavaka about extension programme planning and their frequency of in-service training. Similar was the case with their specific knowledge of various aspects of extension program planning.

2.2 Relationship of Problems with Knowledge.

Ali and Anwer (1987) categorized farmers as low, medium and high on the basis of their problem confrontation score. Sixty one percent of the respondents were under medium problem confrontation categorized, 39 percent were under high problem confrontation categorized and no respondents was under low problem sericulture, mushroom culture and fruit preservation might generate extra employment opportunities for the farm women, specially female rural youth and gradually they will proceed to these operations. Ali and Rahman (1978) found the same thing.

Shukla (1963) in her study found the following problems for organization and management of youth clubs; i) parents and other village adults did not take interest in youth club activities; ii) lack of coordination and duplication of work by parallel agencies; iii) lack of recognition from the villages; iv) lack of finance running youth clubs; v) land was not available for youth projects activities and vi) there was no arrangement of training for the club members and leaders.

Boyd's (1967) study revealed that general barriers to develop a youth programme. They were: i) lack of understanding and planning by officials and policy makers; ii) lack of clear-cut authority and responsibility among the agencies and lack of coordination among all groups and iii) parents and community leaders had limited involvement.

CONCEPTUAL FRAMEWORK

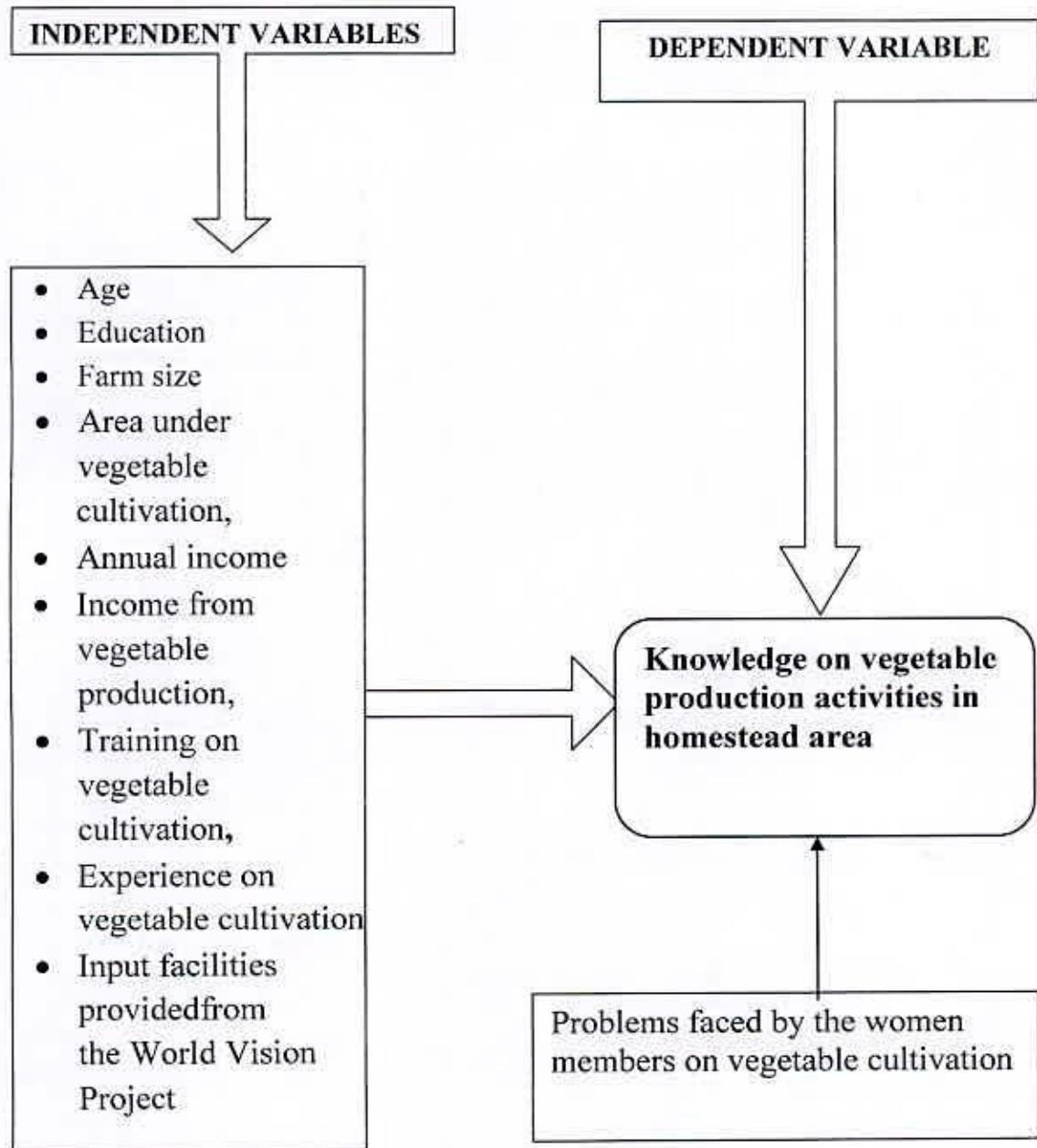


Figure1. The conceptual framework of the study



Chapter III

Materials & Methods

CHAPTER - III

METHODOLOGY

The researcher took proper care in using appropriate techniques for data gathering throughout the study. Methodology deserves a very careful consideration in scientific research; Methodology should be such as would enable the researcher to collect valid and reliable information and to analyze those information to arrive at correct decisions. The principal method used in this study was survey. A semi structured (interview schedule having both closed and open-ended questions were used to collect needed information.

3.1 Locale of the study

The study was conducted in five villages of Narayanpur union in Matlab upazila Under Chandpur district The location of the study villages are shown in figure1. The distance from Matlab to Narayanpur union is 4 kilometers. The farmers irrespective of their farm size make a huge income from vegetables cultivation. At the same time the place is easily accessible by road from Dhaka.

MAUZA GEO-CODE MAP: CHANDPUR DISTRICT

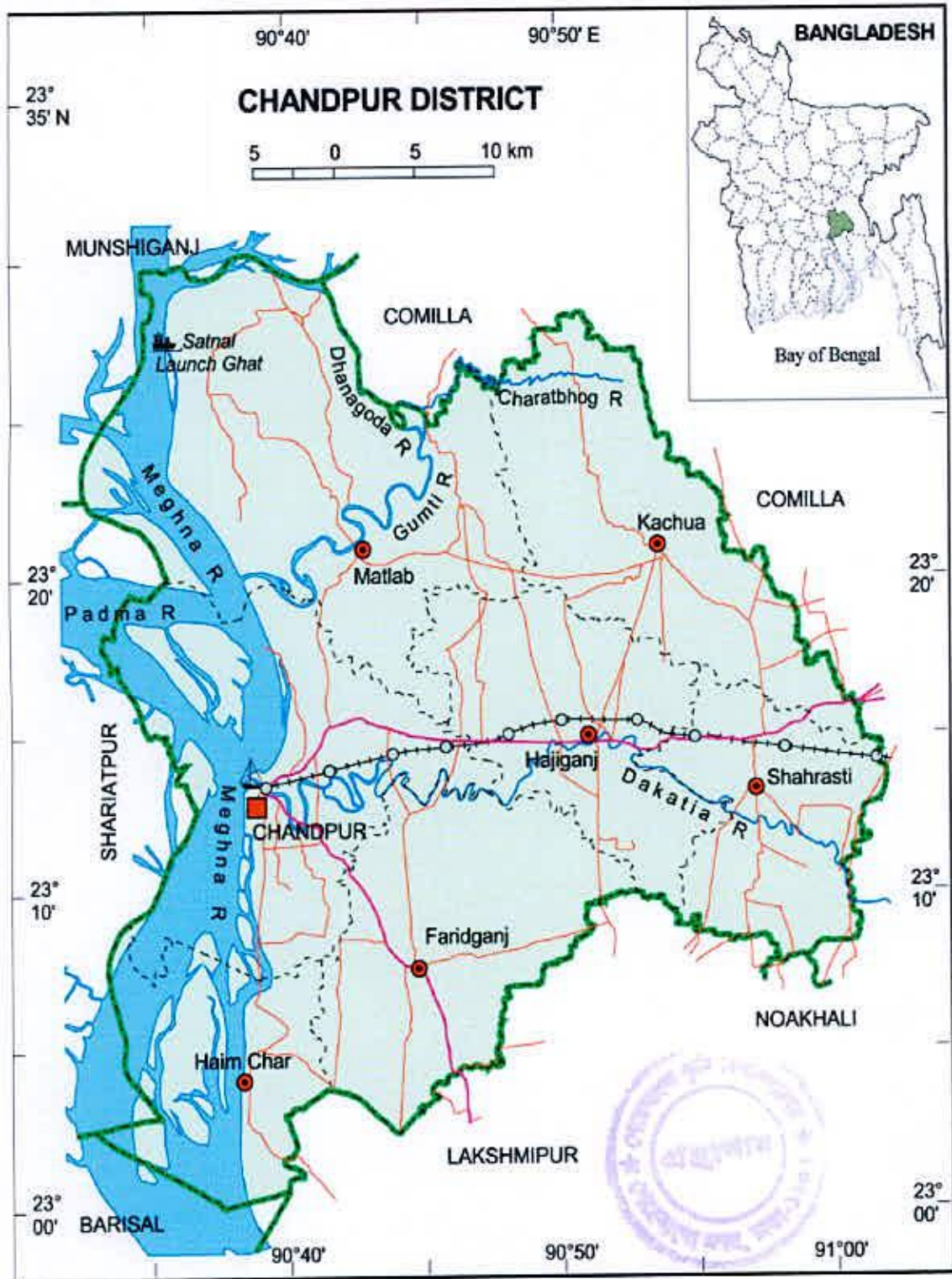


Fig.2 Map of chandpur district showing the study area

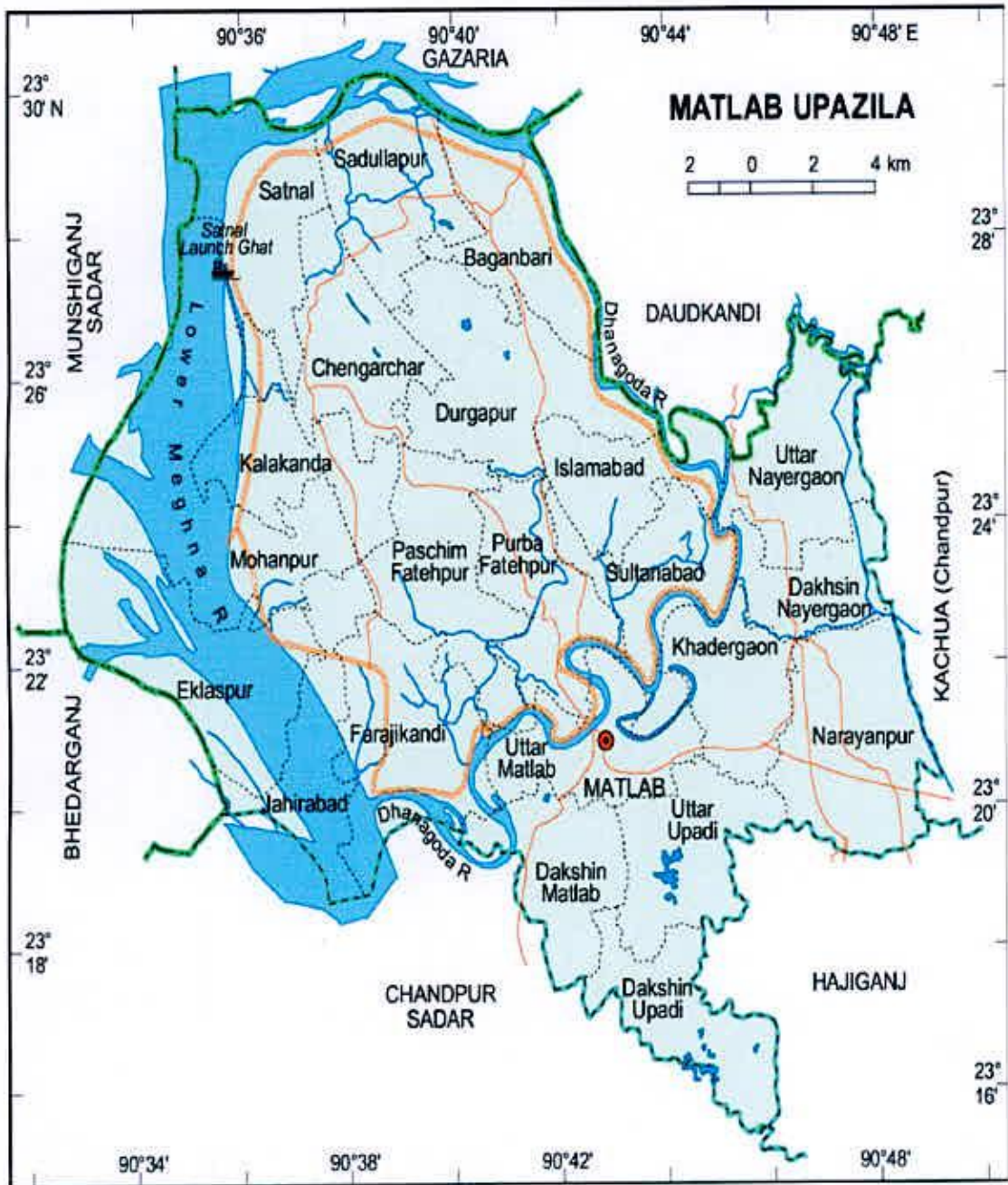


Figure 3. Map of Matlab upazila showing the study area.

3.2 Population and Sampling Design

Five villages were selected out of 10 through purposive sampling. Updated lists of all the vegetables growers of the selected 5 villages were collected with the help of Coordinator and Agricultural Program Organizers (APOs) of World Vision Project located at Matlab upazila. The total numbers of woman members were 350. Sampling rate was 52% and the respondents were selected through, stratified random sampling technique. Thus 100 woman-members were chosen to conduct the study. The distribution of selected respondents is shown in table1.

Table1. Woman-members distribution according to their villages

villages	Total population	Respondents
Barigone	35	18
Chapatoli	32	17
Darinda	40	21
Kashimpur	45	23
Bodurpur	40	21
Total:5 villages	192	100

Sampling rate 52%

3.3 Instrument Development

Keeping the objectives of the study in mind an interview schedule was carefully designed to collect the required information from the households

3.4 Variables of the Study

In descriptive survey research, the selection and measurement of the variables constitute important tasks. A Research hypothesis contains at least two important elements, an independent variable and a dependent variable. The independent variable is the factor that is manipulated by the experimenter to ascertain its relationships to an observed phenomenon. A dependent variable is the factor that appears, disappears, or varies as the independent variable varies (Townsend, 1953).The independent variables of this study were: age, education, farm size, vegetable cultivation area, annual income, income from vegetables cultivation, training on vegetable cultivation, experience in vegetable

production, inputs and credits facilities from World Vision Project by the implementing agents. The dependent variable was knowledge on vegetable production activities in homestead area.

3.5 Measurement of the Independent and Dependent variable

In order to conduct the study in accordance with the objectives it was necessary to measure the selected variables. The procedures followed in measuring the variables are described below.

3.5.1 Measurement of the dependent variables

For measuring the knowledge on vegetables production activities of the respondents, 15 statements listed in the interview schedule. Each statement contains 2 marks. The statements were arranged randomly in the scale in order to assess the knowledge on vegetables production activities. Statements applied on the respondents. For correct answer respondents will be given full marks .If respondents are unable to provide the answer than he or she will get zero marks. Finally total marks of 15 statements are calculated and measure knowledge on vegetable production activities.

3.5.2 Measurement of the independent variables

3.5.2.1 Age

Age of the rural women was determined by the number of years from their date of birth to the date of interview. One score was assigned for each and every complete year of their age. Since Bangladesh women usually do not keep record of their date of birth, the age mentioned by them seems to be on estimation or guess. However, based on the available information of respondents' age, they were categorized into following: Young-the respondents are considered young age ranged from 16 to 30years; medium-31to50years; old-if she completed the age of 51 years and above. One score was assigned for each and every complete year of respondent's age.

3.5.2.2 Education

Refers to the highest of educational attainment acquired by a respondent in years. The level of education has been categorized into three groups: illiterate (can not read and write), Primary level (class i-v), and secondary level (class vi-x) and above. A score of one was given for every year of schooling. A score of zero was assigned for no schooling. If respondents received education outside the school, her education equivalence score was Determined corresponding to the level of her formal schooling.

3.5.2.3 Farm size

Farm size was measured by using the following formula:

$$L_t = A_1 - 1 - 1/2 (A_2 + A_3) + A_4 - A_5$$

L_t = Own land Total land possessed.

A_1 = Own land under own cultivation

A_2 = Land taken from others on barga system

A_3 = Own land given to others on barga system

A_4 = Land taken from others on lease basis.

A_5 = Land given to other on lease basis.

According to farm size of the respondents were categorized like land less (homestead area only), marginal (0.02-0.20 ha), small (0.20-1.00 ha), medium (1.00-2.5 ha) and large (3 ha and above) (BBS 2001)

3.5.2.4 Area under vegetable cultivation

Area under vegetable cultivation was measured by the area of land under her management only for vegetable cultivation. The area was estimated in terms of full benefit to farmers or her family. The unit of measurement was in acre.

3.5.2.5 Annual income

Annual income of the respondents was measured in taka on the basis of total yearly earning from agriculture and non-agriculture sources of her family. Yearly earning from agricultural and non-agricultural sources was added to calculate the actual amount of annual income of the respondents.

3.5.2.6 Income from vegetables cultivation

Income from vegetable cultivation of the respondents was measured in Taka on the basis of total annual income from agricultural sources.

3.5.2.7 Training received by the respondents

It was operationalized by the number of days that a respondent had received training during their participation in HVP. It was indicated by the total number of days of training received by a respondent under different training programs.

3.5.2.8 Experience of vegetables cultivation

Vegetables farming experience of a respondent was measured by the number of years a respondent engaged in vegetables cultivation. The measurement included from the year of starting of first vegetables cultivation till the year of data collection

3.5.2.9 Inputs and credits facilities from world vision project

Inputs and credits facilities of the respondents was measured in Taka

3.6 Measurement of Problem Confrontation Index (PCI)

Growers in the study area might have faced various types of problems in the way of homestead vegetable cultivation. But the investigator gained an experience through personal contact regarding common problems faced by the respondents before collection of data. Besides, the researcher gained experience through consultation with experts pre-testing experience and reviewing previous research findings. Finally, he prepared a list of ten possible problems in this regard. A scale was prepared to indicate the extent to which each of the ten problems was applicable in the case of a respondent. The responses were obtained through a 4-point scale: 'high', 'medium', 'low' and 'not at all' problem and weights were assigned to these responses as, 3, 2, 1 and 0 respectively. Problem confronted score of respondents could range from 0 to 30, where 0 indicates no problem confrontation at all and 30 indicates very high problem confrontation. In order to determine the comparative importance of the ten problems, a problem confronting

index (PCI) was computed for each of the ten problems by summing up the scores obtained by all the respondents by using the following formula:

$$PCI = P_s \times 3 + P_m \times 2 + P_l \times 1 + P_n \times 0$$

Where,

PCI = Problem Confrontation Index

ps = No. of respondents confronted severe problem

pm = No. of respondents confronted moderate problem

pl = No. of respondents confronted low problem

pn = No. of respondents confronted no problem at all

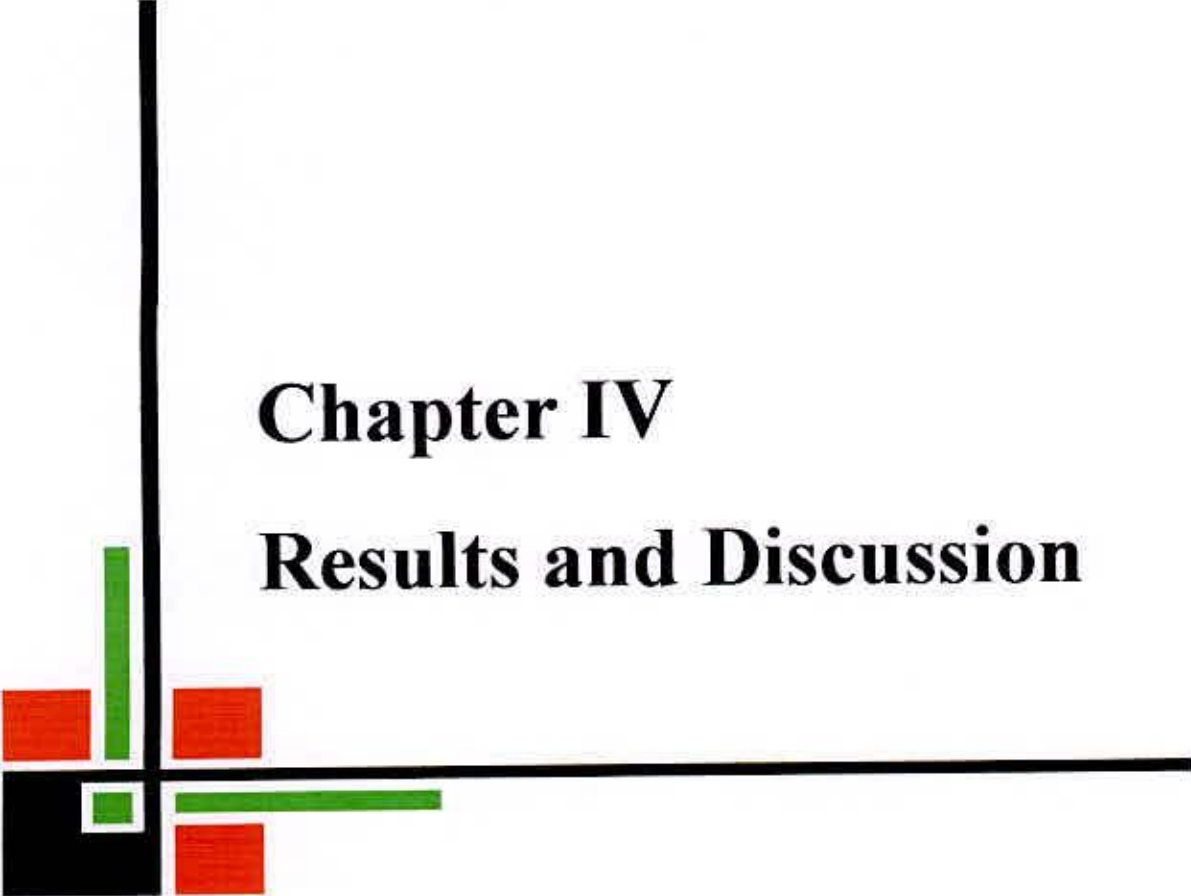
Thus Problem Confrontation Index of any problem could range from 0 to 300, where 0 indicated no problem at all and 300 indicated very high problem.

3.7 Data collection

Data were collected through interview schedule. In order to familiarize himself with the area, and establishing local support and rapport during conducting the interview with the growers, the researcher had to seek help from the Volunteers of the respective area. The researcher carefully explained the questions in the interview schedule. Two vegetable growers of the original list were not available for interview. Therefore, they were replaced by the growers enlisted in the reversed list. Full cooperation was obtained from all respondents and also from those concerned in the field data collection. Data collected from 10 to 26 June, 2008.

3.8 Statistical Analysis

Collected data were coded, compiled, tabulated and analyzed in accordance with the objectives of the study. The SPSS-package in micro computers SAU was used to perform the data analysis. Statistical measures such as percentage distribution, range; rank order and average were used to describe the extent of vegetable production program. For clarity of understanding, tables were also used for presenting the data to determine the relationship between the selected characteristics of the respondents and their knowledge on vegetable production area. Pearson Product Moment Correlation Coefficient was computed. Throughout the study a 0.05 level of probability was used to reject or accept a null hypothesis.



Chapter IV

Results and Discussion

CHAPTER IV

RESULTS AND DISCUSSION

This chapter contains the findings related to the objectives of the study. First section deals with selected characteristics of the women-members. Second section explains about the income earned from vegetable production in homestead area. Third section discusses about the relationships of the selected characteristics of the respondents and their extent of use in vegetable production in homestead area. The last section deals with the problems encountered by the women-members in producing vegetable.

4.1 Socio-economic Characteristics of the Woman-members

There are many interrelated and constituent attributes that characterize an individual and for man integral part in the development of his/her behavior and personality. Behavior of an individual is determined to a large extent by his/her characteristics. Thirteen characteristics of the respondents were considered here as the independent variables. They are as follows:

4.1.1 Age

The mean age of the respondents was 29.03 years with a range, from 16 to 52 years. The standard deviation was 7.49 which mean it was moderately heterogeneous group in terms of their age. For analysis purpose, age levels of the respondents were grouped into the following (Table 2).

Table 2. Woman members distribution according to their age level

Categories	Woman members		Mean	Standard deviation
	NO.	%		
Young(21 -30)	66	66	29.03	7.49
Middle(31-40)	27	27		
Old(41-52)	7	7		
Total	100	100		

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A. M. A. (1996). Understanding Social Research Design and Methods, Bangladesh, p-35).

It revealed that the highest proportions (66%) of the respondents were between 21-30 years of age, followed by the women-member of 31-40 years of age (27%). A little number 7% were more than 40 years of age.

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4.1.2 Education

Education range of the respondents from (0-10) class. The average Education of the respondents was 5.64 and with a standard deviation of 7.49. The level of education was categorized into three groups. They are: illiterate (do not read and write and can sign only), primary level (i-v) and secondary level (vi-x). About 16% of the respondents had no schooling, 28% respondents had primary level education and majority of the respondents (56%) had secondary level education (Table 3).

Table 3. Woman-members distribution according to their educational level

Categories	Women -members		Mean	Std. Deviation
	No.	%		
Illiterate (do not read and write, can sign only)	16	16	5.64	7.49
Primary (Class I-V)	28	28		
Secondary (Class VI-X)	56	56		
Total	100	100		

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A. M. A. (1996). Understanding Social Research Design and Methods, Bangladesh, p-35).

4.1.3 Farm Size

Farm size range from 0.161 ha to 0.829 ha. The average farm size of the respondents was 0.08 ha with a standard deviation of 0.21. The farm size of the respondents was classified into three categories. They are: landless with Homestead (less than 0.02 ha), marginal (0.02-0.40 ha) and small (>0.40-1.012 ha). From the table it shows that percent distribution of Landless with Homestead, marginal and small woman was 10%, 62% and 28%. Majority of the respondents was marginal farm holders. The range of marginal farm was (0.161-0.396) ha and average was 0.247 ha. The range of small farm was (0.423-0.809) ha and average was 0.629 ha. The average farm size was the highest in small farm (Table 4).

Table 4. Woman members distribution according to their farm size

Farm categories	Women members		Farm size (ha)	
	No.	%	Range	Avg.
Landless with Homestead (<0.02ha)	10	10	Not applicable	Not applicable
Marginal (0.02-0.40ha)	62	62	0.161-0.396	0.247
Small (>0.40-1.012ha)	28	28	0.423-0.809	0.629

Mean=0.08 std. deviation=0.21

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A. M. A. (1996). Understanding Social Research Design and Methods, Bangladesh,p-35).

4.1.4 Area under vegetables cultivation

The average Area under vegetable cultivation of the respondents was 0.10 ha with a standard deviation of 0.04 ha. Area under vegetables cultivation range from 0.03 ha to 0.135 ha. Area under vegetable cultivation of the respondents was classified into three categories. They are: landless with Homestead (less than 0.02 ha), marginal (0.02-0.40 ha) and small (>0.40-1.012 ha). From the table it shows that percent distribution of landless with Homestead, marginal and small woman was 10%, 62% and 28%. Majority of the respondents was marginal farm holders. On an average, vegetable cultivation area was 0.459 ha for landless, 0.058 ha for marginal and 0.063 ha for small farm. The average vegetable cultivation area was the highest for Landless with homestead and the lowest for marginal. (Table 5).

Table 5. Woman- members distribution according to their area under vegetable cultivation

Farm categories	Women -members		Area under vegetable cultivation (ha)	
	No.	%	Range	Average
Landless with homestead (less than 0.02ha)	10	10	0.082-0.150	0.459
Marginal (0.02-0.40ha)	62	62	0.030-0.130	0.058
Small (>0.41-1.012ha)	28	28	0.160-.040	0.063

Mean=0.10 std. deviation=0.04

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A. M. A. (1996). Understanding Social Research Design and Methods, Bangladesh, p-35).

4.1.5 Annual income of the respondents

Annual income range from Tk. 20,520 to Tk. 87,180. The average Annual income of the respondents was Tk.41,670 with a standard deviation of 18,280. The respondents were classified into three categories namely low income(less than Tk.40,000), medium income(Tk. 40,000-80,000) and high income (Tk. 80,000 and above).Majority of them (61%) fell in the low income group. A few (6%) were classified as high income group (Table 6)

Table 6. Woman-members distribution according to their annual gross income

Categories	Women-members		Mean	Std. Deviation
	No.	%		
Low(less than Tk. 40,000)	61	61	41,670	18,280
Medium(Tk. 40,000-80,000)	33	33		
High(Tk. 80,000 above)	6	6		
Total	100	100		

4.1.6 Income from Vegetable Cultivation of the respondents.

Income from vegetable cultivation range from Tk. 1,200 to Tk. 12,190. The average income from vegetable cultivation of the respondents was Tk.7,250 with a standard deviation of 4,210. The respondents were classified into three categories namely low income(less than Tk.10,000), medium income(Tk. 10,000-20,000) and high income (Tk. 20,000 and above).Majority of them (67%) fell in the low income group. Only one (1%) were classified as high income group (Table 7)

Table 7. Woman-members distribution according to their income from vegetables cultivation.

Categories	Women-members		Mean	Std. Deviation
	No.	%		
Low(less than Tk. 10,000)	67	67	7,225	4,210
Medium(Tk. 10,000-20,000)	32	32		
High(Tk. 20,000 and above)	1	1		
Total	100	100		

4.1.7 Training on vegetable cultivation

Training range of the respondents from 0 to 7 days. The average training of the respondents was 2.89 days with a std. deviation of 2.55. In the entire study group 37 (37%) of the respondents had no training. However 63 (63%) received training in vegetable production (Table 8).

Table 8. woman-members distribution according to their training on vegetable cultivation.

Categories according to vegetable cultivation Training	women members		Mean	Std. Deviation
	No.	%		
Has no training	37	37	2.89	2.55
Training received	63	63		
Total	100	100		

4.1.8 Experience in vegetable cultivation:

Vegetables cultivation experience of the respondents range from 1 to 35 years with and the average experience of the respondents were 10.25 years with std. deviation of 7.39. About 24 percent had very low vegetables cultivation experience (less than 5 years), 34 percent had low experience (5-10 years), 20 percent had medium experience (11-16 years), 16 percent had high experience (17-22 years) and 6 percent had very high experience (23-35 years) in vegetables cultivation.(Table 9)

Table 9. Woman-members distribution according to their vegetable cultivation experience

Categories	women members		Mean
	No.	%	
Very low(less than 5years)	24	24	10.25
Low(5-10years)	34	34	
Medium(11-16years)	20	20	
High(17-22years)	16	16	
Very high(23-35years)	6	6	
Total	100	100	

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A. M. A. (1996). Understanding Social Research Design and Methods, Bangladesh, p-35).

4.1.9 Woman-members distribution according to input and credit facilities from World Vision Project

The inputs facilities were converted into taka, and the scores ranged from Tk. 200 to Tk. 2,580 with the mean and standard deviation of Tk. 0.96 and 0.80 respectively.

About 8 % respondents had poor credit and input facilities compared to about 38 % having moderate level input facility and the. Majority 54% of the respondents enjoyed good level of input facilities from World Vision Project. (Table 10)

Table 10. Women-members Distribution According to their Input and Credit Facilities from World Vision Project

Categories according to facilities	women members		Mean	Std. Deviaton
	No.	%		
Poor (less than Tk.200)	8	8	0.96	0.80
Moderate (Tk.200-500)	38	38		
Good (Tk.501-2580)	54	54		
Total	100	100		



4.2 Knowledge on Vegetables Cultivation

The knowledge level in vegetables cultivation of the respondents ranged from (15.5–26) marks; the average being 20.70 and the standard deviation was 3.91.

The respondents were classified into three categories namely low (up to 15) marks, moderate (>15 to 20) marks and high (>20 to 30) marks. The highest proportion (53%) of the respondent's possessed high level knowledge in vegetable cultivation, followed by moderate level knowledge (33%); very few (7%) possessed low level knowledge (Table 11).

Table 11. Woman-members distribution according to their knowledge level in vegetables cultivation

Categories according to knowledge in vegetable cultivation	Women-members		Mean	Std. Deviation
	No.	%		
Low (up to 15)	6	6	20.70	3.91
Moderate (>15 to 20)	40	40		
High (>20 to 30)	54	54		

(Grouping made as per Sturgis Mathematical Formula.

Source: Karim, A.M.A. (1996). Understanding Social Research Design and Methods, Bangladesh, p-35).

4.3 Relationship between Knowledge on Vegetable Production in Homestead Area and the Selected Characteristics of the Woman-members

The relationships of eleven selected characteristics of vegetable growers with their production behavior on vegetable cultivation have been presented in Table-13 followed by the discussion made separately.

Table 12. Relationship between knowledge on vegetable production activities and the selected characteristics of the woman-members

Selected characteristics	Co-efficient of correlation
Age	-0.046
Education	0.668**
Farm size	0.211**
Homestead area	0.711**
Land under vegetable cultivation	0.684**
Annual income	0.311**
Income from vegetable cultivation	0.645**
Training on vegetable cultivation	0.849**
Experience	0.289*
Input and credit facilities	0.471**

**significant at 0.01 level

*significant at 0.05 level

4.3.1 Age and knowledge on vegetables production

The null hypothesis tested was "There is no relationship between age of the respondents and their knowledge on vegetable production activities in homestead area.

The calculated value of r (-0.046) showed a negative insignificant relationship.

Therefore, the null hypothesis could not be rejected and it is concluded that no relationship existed between age of the respondents and their knowledge on acceptance of vegetable production. (Table 12). In Bangladesh context, age of rural women is quite arbitrary. Rural women usually tell their age by guess. Hence, women's age should not be considered as an important factor for their knowledge on homestead vegetable production (HVP) programme.

Hossain (1990) observed similar relationship between the age and knowledge on vegetable production.

4.3.2 Education and knowledge on vegetable production

The null hypothesis tested was "There is relationship between the level of education of the respondents and the knowledge on vegetable production activities in homestead area

The calculated value of r (0.668) showed a positive substantial significant relationship and the null hypothesis was rejected (Table 12). Because most of the respondents had secondary level education.

We know that knowledge always increase by education. It is therefore concluded that there is significant relationship between education level and knowledge of vegetable production activities of women members.

Hossain (1990) and Islam, et al. (1990) observed significant relationship between education and knowledge on vegetable production.

Soemarwote and Conway (1991) found similar relationship.

4.3.3 Farm size and knowledge on the vegetables production

The null hypothesis tested was "There is no significant relationship between farm size of the respondents and their knowledge on vegetable production activities in homestead area

The calculated value of r (0.211) showed a positive and very strong significant relationship between farm size and knowledge on vegetable production activities (Table 12). This null hypothesis is therefore rejected which concluded that larger the farm size of the respondents more knowledge on vegetable production activities:

Hossain (1990) found that the farm size was correlated with the yield of Boro crop.

4.3.4 Area under vegetables cultivation and knowledge on vegetable production

The null hypothesis tested was "There is no significant relationship between vegetable cultivation area and knowledge on vegetable production activities"

The calculated value of r (0.684) showed a positive and substantial significant relationship between vegetable cultivation area and their knowledge on vegetable production activities (Table 12). Therefore, the concerned null hypothesis was rejected which concluded that with the increase of vegetable cultivation area, knowledge on vegetable production activities increased.

4.3.5 Annual income and knowledge on vegetables production

The null hypothesis tested was "There is no significant relationship between family income and knowledge on vegetable production activities" with 100 degrees of freedom was significant at 1 percent level.

The calculated value of r (0.311) showed a moderate significant relationship between family income and knowledge on vegetable production activities (Table 12). The null hypothesis was rejected which indicated that there was significant relationship between family income and knowledge on vegetable production activities. In other words, higher the annual family income, greater knowledge on vegetable production activities.

Soemarwote and Conway (1991), Shalaby (1991) and Ahsan, et al (1986), found the positive relationship between annual income and the knowledge on vegetable production.

4.3.6 Income from vegetables production and knowledge on vegetables production program

The null hypothesis tested was "There is no significant relationship between the amount of income from vegetable and knowledge on vegetable production activities.

The calculated value r (0.645) showed a positive and substantial relationship between the income from vegetable and knowledge on vegetable production program (Table 12). Therefore the concerned null Hypothesis was rejected which concluded that more the income from vegetable production greater the activities for the vegetable production.

4.3.7 Training and knowledge on vegetables production program

The null hypothesis tested was "There is no significant relationship between training on vegetable activities received by the woman-members and knowledge on vegetable production activities in homestead area.

The calculated value of r (0.849) showed a very strong association between training on vegetable cultivation received by the woman-members and knowledge on vegetable production program. Hence the null hypothesis was rejected which indicated that there was a relationship between the training on vegetable cultivation received by the woman-members and knowledge on homestead vegetable production activities.

4.3.8 Experience and knowledge on vegetables production

The null hypothesis tested was "There is no significant relationship between vegetable cultivation experience of the respondents and knowledge on vegetable production activities ".

The calculated value of r (0.289) showed a positive and significant

relationship. Therefore, the null hypothesis was rejected which indicated that there was a relationship between vegetable cultivation experience of the woman-members and their Knowledge on vegetable production.

4.3.9 Facilities from World Vision Project and knowledge on vegetables production.

The null hypothesis tested was "There is no significant relationship between input facilities received from World Vision Project by the respondents and knowledge on vegetable production activities

The calculated value r (0.471) showed a positive and moderate significant relationship (as per Davis Convention) between facilities received by the respondents from World Vision of Project and knowledge on vegetable production program. Therefore the concerned null hypothesis was rejected which concluded that more the input facilities given to the respondents greater the knowledge of vegetable production activities.

Alam (1989) found the similar relationship.

4.4 Problem Confrontation Index (PCI)

In order to measure the problems regarding knowledge on vegetable cultivation a pre-tested questionnaire was used. The purpose of this section was to have an understanding on the problems faced by the women-members in vegetable cultivation activities. Problem in each item has been presented with frequency distribution of the women-members in percent.

For clear understanding of problems of the woman-members an index for each item along with rank order was computed by using the following formula:



$$\text{Problem Confrontation Index (PCI)} = P_h \times 3 + P_m \times 2 + P_l \times 1 + P_n \times 0$$

Where,

P_h = Percent of respondent with "high problem"

P_m = Percent of respondent with "medium problem"

P_l = Percent of respondent with "low problem"

P_n = Percent of respondent with "not at all problem"

The problem confrontation of the respondents towards knowledge on vegetable cultivation activities was described through the Problem Confrontation Index (PCI) as shown in (Table 13)

Table 13. Ranked order of problem confrontation index (PCI) of the Women-members in Homestead Vegetable Production Program.

Sl. No.	Problems	Nature of Opinion				Total Score	Rank Order
		High problem	Medium problem	Low problem	Not at all problem		
1.	Lack of fertilizer and irrigation facilities	78	16	6	0	272	1
2.	Inadequate help from SAAO	76	8	9	7	253	2
3.	Lack of cash money	62	22	5	11	235	3
4.	Storage facilities	52	25	7	13	213	4
5.	Lack of improved seed for vegetable production	24	47	25	4	191	5
6.	Inadequate knowledge about vegetable production	38	26	15	21	166	6
7.	Natural calamities	32	31	6	31	163	7
8.	Scarcity of insecticide, pesticide etc	30	9	21	40	129	8.5
9.	Transport facilities	27	11	26	36	129	8.5
10.	Market facilities	16	19	39	26	125	10

In order to understand the comparative importance of different problems and to identify their severity, the 10 problems were arranged in rank order (Table-13). Most serious problem faced by the rural women during homestead vegetable production activities was shortage of fertilizer and irrigation water for vegetable production, followed by lack of improved seed, lack of capital and others facilities.



Chapter V

Summary and Conclusion

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study was conducted in Matlab upazila of Chandpur district with the following specific objectives:

- 1) To discuss the demographic and socio-economic characteristics of the woman-members.
- 2) To determine knowledge on vegetables production in homestead area.
- 3) To assess the relationship between knowledge on vegetables production activities in the homestead area and the selected characteristics of the woman-members.
- 4) To identify the problems encountered by the woman-members in producing vegetables.

From a population of 350, a total number of 192 vegetables growers of five villages in Nrayanpur union of Matlab upazila were selected. Data were collected by the researcher himself using an interview schedule and the data collected from June 10 to 26, 2008.

5.1.1 selected characteristics of the vegetable growers

Age

The mean age of the respondents was 29.03 years with a range, from 16 to 52 years. Majority (66%) of the respondents belonged 21 to 30 years of age, followed by 31 to 40 years of age 27% and a little number 7% over 40 years (Table 2).

Education

The level of education was categorized into three groups. They are: illiterate (do not read and write and can sign only), primary level (i-v) and secondary level (vi-x). The average schooling of the women was 5.64 years and Standard Deviation was 3.02. About 16% of the respondents had no schooling, 28% respondents had primary level education and majority of the respondents (56%) had secondary level education (Table 3).

Farm size

Farm size ranges from 0.161 ha to 0.829 ha. The average farm size of the respondents was 0.08 ha with a standard deviation of 0.21 ha. The farm size of the respondents was classified into three categories. They are :landless with homestead (less than 0.02 ha), marginal (0.02-0.40 ha) and small >0.40-1.012 ha). From the table it shows that percent distribution of landless with homestead, marginal and small women was 10%, 62% and 28%. Majority of the respondents was marginal farm holders. The range of marginal farm was (0.161-0.396) ha and average was 0.247 ha. The Average farm size 0.629 ha was the highest for small farm out of three categories (Table 4).

Area under Vegetables cultivation

The average Area under vegetable cultivation of the respondents was 0.10 ha with a standard deviation of 0.04 ha. Farm size ranges from 0.02 ha to 1.012 ha. The farm size of the respondents was classified into three categories. They are: Landless with homestead (less than 0.02 ha), marginal (0.16-0.40 ha) and small (>0.40-1.012 ha). Majority of the respondents was marginal farm holders. On an average, vegetable cultivation area was 0.459 ha for landless, 0.058 ha for marginal and 0.063 ha for small farm. The average area under vegetable cultivation was the highest for marginal farm (Table 5).

Annual income of the respondents

Annual income range from Tk. 20,520 to Tk. 87,180. The average Annual income of the respondents was Tk.41,670 with a standard deviation of Tk. 18,280. The respondents were classified into three categories namely low income (less than Tk. 40,000), medium income (Tk. 40,000-80,000) and high income (Tk. 80,000 and above). Majority of them (61%) fell in the low income group. A few (6%) were classified as high income group (Table 6).

Income from vegetables cultivation of the respondents

Income from vegetable cultivation range from Tk. 1,200 to Tk. 12,190. The average Income from Vegetable Cultivation of the respondents was Tk.7,250 with a standard deviation of Tk. 4,210. The respondents were classified into three categories namely low income (less than Tk.10,000), medium income (Tk. 10,000-20,000) and high income (Tk. 20,000 and above). Majority of them (67%) fell

in the low income group. Only one (1%) was classified as high income group (Table 7).

Training on vegetables cultivation

In the entire study group 37 (37%) of the respondents had no training. However, 63 (63%) received training in vegetable production. Average of training was 2.89 and std. deviation 2.55 (Table 8).

Experience in vegetables cultivation

Vegetable cultivation experience of respondents ranged from 1 to 35 years with an average of 10.25 years. About 24 percent had very low vegetable cultivation experience (less than 5 years), 34 percent had low experience (5-10 years), 20 percent had medium experience (11-16 years), 16 percent had high experience (17-22 years) and 6 percent had very high experience (23-35 years) in vegetable cultivation (Table 9).

Facilities received from World Vision Program.

About 8 percent respondents had poor credit and input facilities compared to about 38 percent having moderate level input facility. Majority of the study group enjoyed good level of input facilities from World Vision Project (Table 9).

5.1.2 Knowledge in vegetables cultivation

The highest proportion (54%) of the respondent's possessed high level knowledge in vegetable cultivation, followed by moderate level knowledge (40%), very few (6%) possessed low level knowledge (Table 10).



5.1.3 Relationship between selected characteristics of the study group and their knowledge on vegetables production program

The vegetables cultivation grower's age and experience in vegetable cultivation had "No" to negligible association with their knowledge on vegetable production.

The variables like education, vegetable cultivation area and income from vegetable cultivation had substantial association with their knowledge on vegetable production program in homestead area.

The variable farm size had low association with their knowledge on vegetable production.

The Variables like annual Income from vegetable cultivation and facilitates from World Vision Project had moderately significant association with their knowledge on vegetables production.

The variables like homestead area and training had very strong significant association with their knowledge on vegetable production

5.1.4 Problems of the respondents

Out of 10 problems the respondents were faced severe problem on lack of fertilizer and irrigation facilities (rank order 1) and the lowest problem were faced on market facilities (rank order 10)

CONCLUDING STATEMENTS

1. The age level of majority (66 %) of the women members ranged from 21 to 30 years. Most of them were 30 years of age.
2. Seventy-four percent of the respondents were educated and the average schooling years were nearly 6 years.
3. Age in vegetables cultivation had insignificant association with knowledge on vegetable production.
4. Education (substantial), farm size (moderate), homestead area (very strong), annual income (moderate), income from vegetable cultivation (substantial), training on vegetable (very strong), experience (low association) and facilities from world vision project (moderate) had significant association with their knowledge on vegetable production.
5. Nevertheless the full achievement could not be made due to Inadequate fertilizer and irrigation facilities, inadequate help from SAAO, lack of improved seed, lack of cash money and others problems such as pesticide, storage facility.



RECOMMENDATIONS

The following recommendation is made based on the findings and conclusions:

1. Nearly 6% of the woman-members possessed low knowledge about vegetables improved production technologies. At the same times 37 of the study group never received training on vegetables production techniques. At this it is suggested that World Vision Project (WVP) should extend more facilities to their members for providing training on vegetables production. The WVP should develop a mechanism through which technologies could be transferred from housewives to housewives.
2. In order to motivate the women-members for the expansion of vegetables production program, attention should be given for the improvement of road communication and transport facilities. Ultimately this will help marketing facilities and thereby it will improve their economic conditions.
3. Irrigation facilities should be extended through the installation of hand tube-well or treadle pump. Necessary loan from World Vision Program should be given to their members for the installation of the same.



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Appendices

APPEITDIX-A

"Knowledge on Vegetables production Activities by woman-members in Homestead area under World Vision Project"

Davis convention about correlation coefficient

Coefficient	Description
0.70 or Higher association	Very strong
0.50 to 0.69 association	Substantial
0.30 to 0.49 association	Moderate
0.10 to 0.29 association	Low
0.01 to 0.09 association	Negligible

Source: Davis, J.A. (1971). Elementary survey analysis. Englewood Cliffs, NJ: Prentice-Hall

APPENDIX-B
DEPARTMENT OF AGRICULTURAL EXTENSION & INFIRMATION
SYSTEM
SHER-E-BANGLA AGRICULTURAL UNIVERSITY, DHAKA-1207

INTERVIEW SCHEDULE
ON

"Knowledge on Vegetables production Activities by woman-members in Homestead area under World Vision Project"

Sl. No.

(Please provide information on the following aspects)

The family information of the respondent:

1. Age : How old are you?

..... years

2. Education : (Please mention your educational qualification)

a) Cannot read and write

b) Can sign only

c) I read up to class

3. Farm size : Please indicate the area of your land

Ownership of the land	Area (decimals)
Homestead area	
Own land under own cultivation	
Land given others on barga	
Land taken from others on barga	
Land given to others on lease	
Land taken on lease from others	
Fallow land (if any please specify)	

4. Area under vegetables cultivation: (2006-2007).

Sl.No.	Land distribution	Area (decimals)
i)	Homestead area	
ii)	Land under vegetable cultivation	
ii)	Others (Please Specify)	

5. Family Income :

Sl. No.	Annual income (2006-2007)	Amount	Rate	Total (Tk)
a)	From agricultural sources :			
	i. Cereal crops			
	ii. Vegetable			
	iii. Fruits			
	iv. Poultry			
	v. Livestock			
	vi. Fisheries			
	vii. Others (if any)			
b)	From non-Agricultural sources :			
	i. Service			
	ii) Business			
	iii) Day Labor			
	iv) Others (If any)			
	Total			

6. Income from vegetables production:

(Please mention your income from vegetable production during 2006-2007)

Name of vegetables	Production (kg)	Unit price (Tk)	Total (Tk)
Potato			
Tomato			
Brinjal			
Radish			
Spinach			
Swamp spinach			
Carrot			
Bottle gourd			
Pumpkin			
Cucumber			
Squash			
Lady's finger			
Ash gourd			
Indian spinach			
Others			

7. Training on vegetables cultivation:

Have you received any training on vegetable cultivation? ()Yes ()No

If yes, please give the following information:

S1. No.	Name of the Training	Duration (days)	Year	Sponsoring Organization
1.				
2.				
3.				

8. Experience in vegetables cultivation (in year) :

9. Please furnish information about your credit and input facilities from World Vision in 2006-2007 against vegetables cultivation

Sl. No.	Inputs	Amounts of inputs received	Amount of money received (Tk)
1.	Land (Buying)		
2.	Land (Lease)		
3.	Land preparation (Labor cost)		
4.	Seeds		
5.	Seedlings		
6.	Fertilizer		
7.	Pesticides & Insecticide		
8.	Fencing		
9.	Agricultural tools		
10.	Hand tube-well		
11.	Others		
	Total		

10. **Knowledge on vegetables production activities:**
(Please answer the following questions)

Sl. No.	Items	Full marks	Marks obtained
1.	Which soil is suitable for vegetable production?	2	
2.	Name two modern varieties of potato?	2	
3.	Which vitamin we get from carrot?	2	
4.	Mention two important disease of cucumber?	2	
5.	Name two modern varieties of tomato?	2	
6.	Mention two harmful insect of vegetable?	2	
7.	What is the main disease of potato?	2	
8.	What is the main disease of potato?	2	
9.	What is the suitable time for tomato cultivation?	2	
10.	What is the main disease of tomato?	2	
11.	What is the suitable time for cauliflower cultivation?	2	
13.	What is the main disease of brinjal?	2	
14.	Mention five Winter vegetables?	2	
15.	Mention five Summer vegetables?	2	
Total marks =		30	

11. **Problems**

(Please mention the extent of problems that you faced during vegetable production)

Sl. No.	Problems	Extent of Problems			
		High	Medium	Low	Not at all
1.	Lack of improved seeds for vegetable production				
2.	Inadequate knowledge about vegetable production				
3.	Lack of fertilizer and irrigation facilities				
4.	Natural calamities				
5.	Scarcity of insecticide, pesticide etc				
6.	Inadequate help from SAAO				
7.	Lack of cash money				
8.	Storage facilities				
9.	Transport facilities				
10.	Market facilities				

Thank you for your nice co-operation and giving time to me.

.....
Signature of the enumerator

Date:

APPENDIX-C

"Knowledge on Vegetables production Activities by woman-members in Homestead area under World Vision Project"

APPENDIX-C

"Knowledge on Vegetables production Activities by woman-members in Homestead area under World Vision Project"

Correlation Matrix of selected characteristics of the respondents.

	A	B	C	D	E	F	G	H	I	J
A	1									
B	-.84	1								
C	-.42	.212*	1							
D	.015	.644**	.350**	1						
E	.077	.358**	.861**	.366**	1					
F	.077	.650**	.299*	.599**	.274**	1				
G	-.024	.717**	.342**	.625**	.431**	.637**	1			
H	.886**	-.165	-.154	-.047	-.048	.039	-.071	1		
I	-.066	.444**	.381**	.450**	.617**	.335**	.585**	.024	1	
J	-.046	.668**	.211**	.684**	.311**	.645**	.849**	.289*	.471**	1

A=Age of the respondents

B=Education

C=Farm size

D=Area under vegetables cultivation

E=Annual income

F=Income from veg. cultivation

G=Training on veg. cultivation

H=Experience on veg. cultivation

I=Facilities from world vision Project

J=Knowledge on vegetables cultivation

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