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Full Length Research Paper

The Rural Household Economy: Income, Expenditure, and Investment Patterns

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This study was conducted to analyze the rural household economy in terms of income, expenditures and investment patterns. The unit of analysis of the study is the cooperator-household in the MMSU-DOST-Science and Technology Enterprise Assistance Mechanism-Municipal Science and Technology Application Program (STEAM-MSTAP) from 2003-2008. The study unveiled a simple pattern of the rural household economy, where the bulk of income comes from the salary or wages although agriculture remains to be the primary employment. The true scenario is that income from agriculture is so low, hence, other sources of income become a necessity. As to expenditure, the pattern is strictly income-based. Expenditures are limited within the real income generated and that the bulk goes to basic household necessities and utilities. With a real income-dependent expenditure pattern, the consequence is an investment pattern that is expenditure-and savings-dependent. Thus, investment is rather low. Based on the correlation analysis, 16 intra – and extra – household variables are found to be correlated with income, expenditure and investment patterns. In the regression analysis, the income, expenditure and investment patterns are predicted by both the intra – household and extra-household factors. When disaggregated, income is predicted by employment and risk – taking while expenditure is predicted by accessibility to health services. Investment pattern is predicted by employment, information seeking, and accessibility to education services. In the final analysis, to comprehend the economy of the rural households, a tested model was conceptualized depicted as the Limited-Restricted-Constricted (LRC) model. This is a continuum beginning with limited income from low paying employment and moderate risk-taking ability leading to restricted expenditures and savings due to limited income, the bulk of which goes to basic survival needs. The outcome is a constricted investment since a small amount is left compounded by the limited information and access to educational opportunities.

Keywords: rural household economy, income, expenditure, investment patterns, STEAM-MSTAP cooperators

INTRODUCTION

Poverty in Third World countries is likely to be absolute, with bare subsistence levels of food, shelter and amenities unlike poverty in industrialized societies. The percentage of the poor is also much larger primarily due to lack of economic development rather than lack of participation in the society's economy (Grolier International Encyclopedia 1998). Most of the rural people are employed in agriculture; however, many are engaged in non-farm activities as a supplementary occupation.

Most often, poverty is a situation people want to escape from. So poverty is a call to action-for the poor and the wealthy alike-a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities. Among the

Southeast Asian countries, the Philippines and Indonesia have respectively, 37 and 27 percent of their population below the national poverty lines (Islam 2006).

An ADB report (Dumlao 2007) says that slow growth in rural incomes resulted from weaknesses in public investments in rural infrastructure and a policy environment that kept private investment away. In the Philippines and the rest of developing Asia, the gap between the rich and the poor is widening and has become a threat to growth in the world's rapidly expanding region.

The Medium Term Philippine Development Plan (MTPDP) for 2004-2010 is a detailed roadmap to fight poverty and build prosperity for the greatest number of the Filipino people through job creation and enterprise. This plan includes poverty-alleviation program, one of which is the enterprise development undertaking, the Science and Technology Enterprise Assistance Mechanism – Municipal Science and Technology Advisory Program (STEAM-MSTAP) of the Technology Application and Promotion Institute(TAPI)of the Department of Science and Technology (DOST) which was implemented by the Mariano Marcos State University (MMSU) since 1994.

The original program, MSTAP, was carried out to provide assistance to state colleges and universities (SCUs) to enhance their mobility in extending technical assistance to local government units (LGUs) in the promotion and utilization of technologies for development. With the STEAM, technical and financial assistance to people were provided for local enterprise development. Thus, the enhanced program set the active interfacing of the roles and functions of various stakeholders in development, particularly the academe, research and development sectors, local government units (LGUs), marketing outfits and the people in the community. Genuine human development is the proper upliftment of the quality of life, which includes the satisfaction of both physical and spiritual needs which gives people the opportunity to determine themselves. Human initiative and creativity – in essence – the entrepreneurial spirit also have played bigger roles in improving incomes (Villegas 2004).

A better understanding of the rural household economy, specifically on income, expenditure and investment patterns could be helpful in remedying the poverty of the people. These aspects of household economy may need to be changed. If the members of the society use all their income for present enjoyment, the country's capacity to produce commodities in the future will decline. However, provision of goods and services for the future entails sacrifices for the present. Individuals have to give up their present enjoyment in return for their future satisfactions. They could be convinced that the way they manage and utilize their income should favor growth in savings and investment in order to create a storehouse for future consumption that may encourage possible investments (Sharpe 1985). Without investments, the productive capacity of the economy will not improve or even be maintained and economic progress is a necessary condition for some other purpose which is judged to be good: be it national dignity, private profit, the general welfare, or a better life for the children.

There is thus a need to study the rural household economy since these households derive income from various sources, and to know whether this income has been productively spent or invested to generate profit which could further spark development or just being spent to meet the basic needs.

Statement of the Problem

The study was conducted to analyze the rural household economy. Specifically, it attempted to answer the following research questions:

1. What are the features of rural household in terms of:
   a. intra-household characteristics, and
   b. extra-household characteristics

2. What is the pattern of the rural household economy in terms of:
   a. income,
   b. expenditure, and
   c. investment; and

3. What intra-household and extra-household factors are correlated with and predictors of the rural household economy?

Significance of the Study

Results of the study hope to provide better understanding of the rural economy which is a fundamental indicator of change and development in the rural sector. That sense of understanding can be satisfied through the

insightful information that the collected and analyzed data provide and which can be added to the existing and accumulating knowledge about the structure of the rural economy. Such knowledge is an indispensable working tool for policy makers to conceive and formulate policies to address rural concerns especially on poverty alleviation.

These data are useful for researchers and rural development workers towards the development of a model that could address concerns along how rural households utilize and distribute their income and invest their money to speed-up economic development specifically in rural areas where poverty is prevalent.

These are also helpful for development workers in all fields as a holistic approach in addressing the multifarious problems in rural development.

These are also useful for would-be, budding or full-fledged entrepreneurs in developing and strengthening their abilities, competencies and value system which would improve further their small and medium enterprises.

The same knowledge is indispensable in articulating and translating economic policies into more appropriate and relevant programs and projects pertaining to improving the rural economy.

Literature and Studies

To the layman, development means having adequate food; i.e., the opportunity to eat three times a day; adequate education or being able to send the children to school; and enough income to meet the basic needs like clothing, housing, water and free from sickness. However, development as a process involves both economic growth and social development (Cuyno, Ramos, and Lumanta 1982). For development to take place in society, all its structures – principally social, economic, and political should serve as stimulants to change. If they pose as barriers, development becomes unattainable.

Rural development, on the other hand, is a process of providing opportunities, services and amenities to the rural people so that they can improve their social, economic, political, cultural and physical well-being. It encompasses all development programs that alleviate the poor from poverty, increase agricultural productivity and income, generate employment and empower the rural people to participate in development (Battad, et al. 2003).

In our country, the poor people are mostly located in the rural areas. The World Bank Assessment of Poverty in the Philippines (2001) as cited by Blanco (2007) reported that poverty incidence in the rural areas is 36.9 percent against 11.9 percent in the urban areas. The rural folks are prone to be poor because they have no choice. There are limited economic opportunities in the provinces and little means and cash to be able to engage in handicrafts that could augment the people's miniscule agricultural income. They likewise do not have sufficient capability to buy the essential inputs and components of farming and fishing (Roxas 2004).

Patterns of the Rural Household Economy

The rural household economy is basically constituted by income, expenditure, and investments.

Household income

Households can do three things with their income. Firstly, they can spend it for the consumption of goods and services; secondly, they can save it; and thirdly, they can pay taxes (Boyes & Melvin 1999).

The agricultural sector provides livelihood directly and indirectly to a significant portion of the population of all developing countries, especially in rural areas, where poverty is more pronounced (Zepeda 2005).

In the Philippines, there has been a very big income disparity or income inequality as only the top 10% of the society is considered rich. The rich are extremely rich and the poor are very poor. This scenario is one of the greatest impediments to economic growth and development. Income inequality perpetuates poverty by denying the poor opportunities to get themselves out of their economic misery (Tullao 2004).

Income is payment for outputs of production as wages and salaries, rent, interest and profit. This may be in cash or in kind (Villegas 2004). Household income depends primarily on household earnings which depend on the productivity of the household's resources. On the other hand, a low income restricts people even in the fulfillment of their basic wants (Tullao 2004).

A high income enables a family to provide its basic necessities, miscellaneous expenses and even some luxury items. Similarly, if income if not all disposed of for consumption, part of it is used for nonconsumption or savings. It is intended to reap satisfaction at the cost of sacrificing present consumption, as the saying goes, "save for the rainy days."

Studies conducted by Filipino economists show the tendency of off-farm income to encourage investments in agriculture. According to Intal (1994), given that most of the Philippine poor are farmers and the rural sector, the best way of reducing poverty is to revitalize Philippine agriculture and improve the prospects of rural and farm household for increasing not only farm income but also off-farm income.

Income earned outside farming has emerged as more than just the next best thing to help lift the rural poor out of their rut, said an economist who noted that off-farm income tends to increase chances for farmers to invest in agriculture. This, in turn, enables the family to invest in the farm and in the long run increase farm productivity and income.

To most Filipino farmers, family income provides the capital necessary for increased production. The greater his income, the greater will be his investment in the new technology. Likewise, the presence of other sources of income may add to the risk taking ability of the farmers to try new ideas (Barlow, et al. 1983).

Household expenditure

In the households, expenditures are made purely for personal consumption or other disbursements which are considered as non-family expenditures. These include purchase or amortization of real property, payments of cash loan (principal), installments of appliances, installment for personal transport, loans granted to persons outside of the household and major repair or construction of a house.

Based on the Family Income and Expenditure Survey (FIES 1997), the spending pattern of Filipino families continued to shift toward less spending on food. The same pattern was found in the 2006 FIES conducted wherein the spending pattern of Filipino families, particularly among those in the bottom 30% income group, continued to slide towards less spending on food. In 2006, 59% of all expenditures by this group was on food, while it was 60 % in 2003. This means that for every Php100.00 spent by this group in 2006, Php59.00 went to food compared to Php60.00 in 2003. Consequently, there was a decrease in the shares of other expenditure items like tobacco (2.0% to 1.7%), clothing, footwear and others (2.5% to 2.0%) and house maintenance and minor repairs (0.5% to 0.2%). Expenditures on dwelling units, household furnishing and equipment, transportation and communication, taxes, and others also increased (NSO 2009).

Among low-income families, a greater proportion of earnings goes to basic necessities like food, followed by expenditures in dwelling units, and fuel, light and water. They spend least on recreation, taxes, and non-durable furnishings and a minimal percentage is spent for education (1%).

In middle-income families, half of the earnings go to food, more than 10% to dwelling units, and 5.58% to fuel, light and water, 0.3% to recreation and non-durable furniture and equipment.

The high-income families only allocate about 29% of their expenses to food. A larger proportion of their income is spent on dwelling units (20%), transportation and communication (8.4%), taxes (5.4%), and education (5.1%).

In the same manner, in a data taken from *A Guide to the Spending Patterns of Filipino Families* by the NCSO and CRC (1971) as cited by Villegas (2004), a percent increase in expenditure is induced by a 1% increase in income. The expenditure items are classified into first priority items (personal effects, education, recreation, transportation, household furnishings); second priority items (housing, personal care, clothing, housing operations, medical care); and third priority items (tobacco, utilities, food, alcoholic beverages).

There is a large disparity between the spending power of urban consumers and that of rural consumers. This is shown in the income distribution (% share) of the FIES, NSO (1997 as cited in Villegas 2004). The reason behind is majority of the families in the rural areas receive an annual income of below Php50,000.00, hence, nearly half of the consumers belong to the poor category.

Household investment

Investment is another form of the expenditure of goods and services, the objective of which is to create productive capacity in the future or in a sense has a future orientation. There are occasions, however, when an activity can be both a form of savings and an investment because they are both undertaken by the same decision makers. This is exemplified by a farmer who takes a few days from his farming time to repair his tools, so the farmer sacrifices present income to repair his implement. This is a form of an investment because the farmer increases his productive capacity when the farm implement will now be in proper working order (Tullao 2004).

Money is invested by savers on the basis of personal knowledge and independent physical investigation. If one has money to spare, he could save and/or invest it. By savings he put his money aside without risk, usually with the chance to earn interest. With investing, there's potential for the money to grow more, but the returns aren't

guaranteed (Kavaljit 2000). Investing is generally more suitable for the longer term just like the construction of an industrial plant, buying industrial equipment, and increasing a firm's stock of inventories.

Translating the aspiration and circumstances of diverse households into appropriate investment decisions is a daunting task (Bodie, Z., Kane A., and Marcus, A. 1995). The value of savings increases differently depending on how the money is managed. Placing savings in something beyond a savings account is investment. Every investment can be conceived as an asset held by someone: the prospect of future returns.

As man gradually advanced toward civilization, as he learned to produce in excess of his immediate need, so has he learned to accumulate this surplus for later consumption by himself or others. Money is in effect a method to store goods and services for future use. Investing is to lay out (money or capital) in business with the view of obtaining an income or profit (team.zobel.dlsu.edu.ph). Investment is a process of increasing the capital stock or wealth of the economy in a given period. Investment is vital in the creation of capacity, maintenance, and provision for more efficient goods and services in the future (Tullao, Jr. 2004).

The first major economic asset many people acquire is their own house and, as one ages and accumulates savings to provide for consumption during retirement, the composition of wealth shifts from human capital toward financial capital (Bodie, Kane, & Marcus 1995). According to Julian (1930) as cited by Felipe, & Lorenzo (2009), a house is more than just a roof over one's head; it is a group where social acceptance is highly valued, a house is an indicator of wealth and can be a means of gaining social acceptability (Foster 1982).

In the rural households where farming is the main source of employment, farmers may invest in the purchase of land, farm tools and farm equipment that would increase their productivity and eventually their income.

METHODOLOGY AND MATERIALS

Scope and Delimitations of the Study

The study was limited to the extension cooperator-households of the MMSU-Science and Technology Enterprise Assistance Mechanism-Municipal Science and Technology Advisory Program (STEAM-MSTAP) from 2003 to 2008 located in five towns and the City of Batac in the province of Ilocos Norte.

This study design is cross-sectional thus data are limited to those gathered during the one-time data collection period. Beyond describing the structure of the rural economy, consisting of the key study variables, analysis ventured into the identification of its correlates and predictors.

Locale of the Study

The study was conducted in thirteen barangays in five municipalities in the province of Ilocos Norte and the City of Batac where the extension cooperator- households of the MMSU-DOST STEAM-MSTAP project are located. Figure 2 shows the map of the province of Ilocos Norte indicating the location of the municipalities where the extension cooperator-households are found. Table 1 presents the list of the locations of the study detailed by barangay in each municipality.

Table 1: List of the locations of the study detailed by barangay in each municipality, Ilocos Norte, 2009

Municipality	Barangay
Bacarra	Pungto
Batac	Colo
	Dariwdiw
	Payao
	Quiling Sur
	Sumader
Pasuquin	Ngabangab
	Salpad
	San Isidro
San Nicolas	San Guillermo
Sarrat	San Miguel
	Sta. Rosa
Solsona	Talugtog

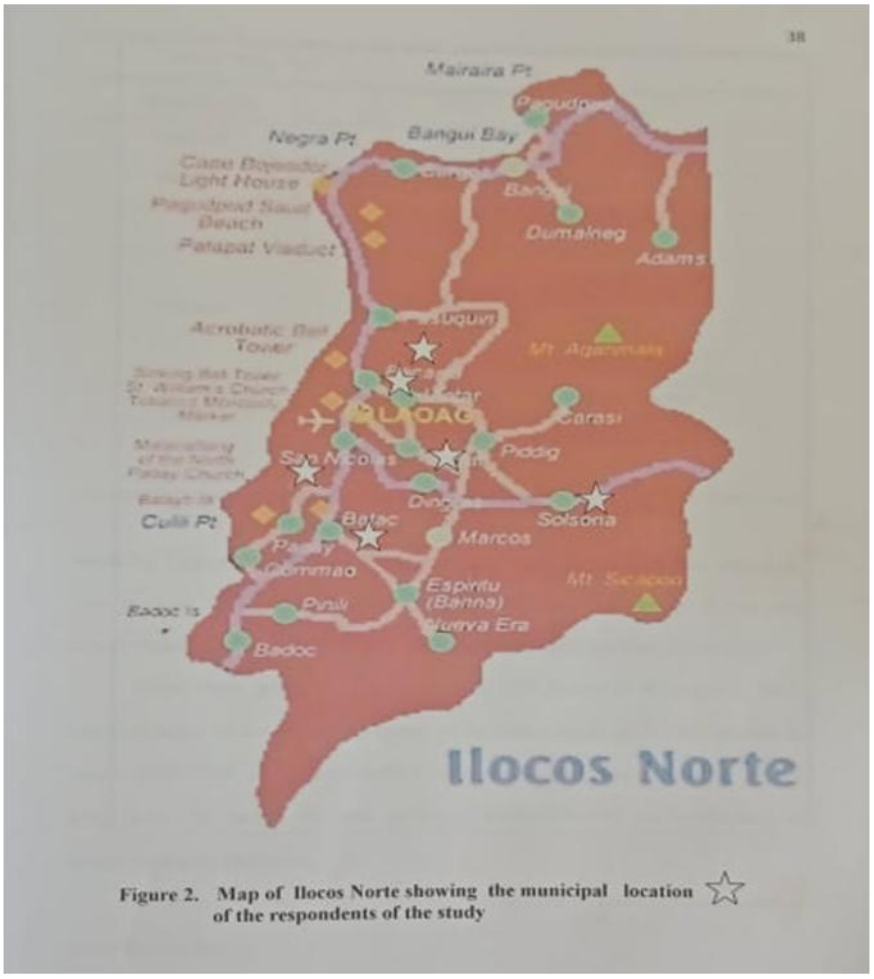

Figure 2. Map of Ilocos Norte showing the municipal location ☆ of the respondents of the study

Population and Sampling

The population of this study is composed of the MMSU-DOST-STEAM-MSTAP cooperator-households from 2003-2008. The sample-respondents of the study drawn from the master list of the recipients obtained from the MMSU Extension office, were deliberately chosen based on the criteria of being consistent cooperators or recipients for a period of three years immediately before the conduct of the study being considered in good standing, and being physically available at the time of the conduct of the study. Out of the total number of 86 beneficiaries only 70 qualified to be respondents. The distribution of sample-respondents by their municipal location is shown in Table 2. Sarrat has the highest number of respondents (27) followed by Pasuquin, (15) and Batac, and Solsona (12 each).

Table 2: Distribution of respondents by municipality in Ilocos Norte, 2009

Municipality	**No. of Respondents**
Bacarra	2
Batac	12
Pasuquin	15
San Nicolas	2
Sarrat	27
Solsona	12
Total	**70**

Specification of Variables

The study looked into the dynamics of the rural households as a socio-economic entity describing its intra- and extra-household attributes and its pattern of income, expenditure, and investments. These data were analyzed to determine which intra- and extra- household attributes affect and influence the patterns, and how they do. The intra-household attributes include socio-demographic characteristics, membership in organizations, employment, decision-making and risk-taking abilities, entrepreneurial ability, and value system. The extra-household attributes are categorized into social and physical factors. The social factors include peer influence, organizational influence and access to services such as education, health, information and communication and transportation. On the other hand, the physical factors include access to trade/business centers and leisure facilities.

Data Gathering Instrument

The data collected for the study consisted of both primary and secondary data secured from reports and other documents at the MMSU Extension Directorate, the MMSU-based Regional Center for Poverty Studies (RCPS), National Statistics Office (NSO), Department of Agriculture, Provincial Agriculture office and the Bureau of Agricultural Statistics (BAS).

Data Gathering Procedure

Through a letter, the researcher sought assistance of the MMSU Extension office, the prime mover of the project, in the conduct of the study. Permission from the mayors and barangay chairmen concerned to interview the cooperators in their respective municipalities and barangays was likewise secured through letters.

The interview schedule was administered through personal individual interviews with the cooperator-households. The researcher, including five hired enumerators, conducted the interviews. Five of the enumerators were either graduates or students of the DAT-BAT program while the other three were staff members of the MMSU extension directorate who are directly involved in the STEAM-MSTA Program. Prior to the conduct of the interview, the enumerators were briefed and oriented about the study and data collection techniques based on the interview schedule.

In addition to the formal interviews, informal interviews with the members of the identified cooperator-households were conducted to substantiate the responses to the questions in the interview schedule.

The researcher and enumerators first met with the identified leader of the project to request him to convene the respondents thereby making the data gathering easier and faster. When the respondents were not available because they were out of town, the leader informed the researcher through text messaging. There were times that data gathering was so tedious because it took the respondents time to answer especially the 55-item PEC statements, hence, that part including the seven-item decision-making and risk-taking statements together with the value system was left with them overnight to answer and retrieval was done the following day.

Statistical Treatment of Data

The socio-demographic characteristics of the households were analyzed using descriptive statistics such as frequency counts, mean and percentages.

The Pearson product moment coefficient of correlation (r), was used to determine the relationship between the intra-household factors, extra-household factors, and the income, expenditure and investment patterns of the rural households and the regression was used to determine the predictors of the patterns of the rural household economy.

The computer program, Statistical Package for Social Sciences (SPSS) was used in analyzing the relationships and the predictors.

RESULTS AND FINDINGS

Features of the Rural Household

Intra-household Features

Socio-demographic profile: The intra-household characteristics of the STEAM-MSTAP cooperators were comprehended in terms of their socio- demographic profile which include age; educational attainment of the household heads, spouses and children; household size; membership in organization and employment (Table 3).

Males dominate as household heads with mean age 51.91 ranging from 26 to 87 years and belong to the working age group. The mean age of the spouse is 47.50 ranging from 26 to 81 years. Most (92%), like the household heads belong to the working age range of 26-64. The mean age of their children is 19.12 years ranging from 0 to 50 years. Majority (67.50%) are in the working age range of 15-50 years. The rest (32.50%) are young dependents who are 0-14 years old. This corresponds to the data taken from the 2007 Census of Population (POPCEN) of Ilocos Norte (NSO, 2007) that more than three-fifths (62.6 percent) of the total household population belong to the working-age population of 15 to 64 years.

Table 3: Socio-demographic profile of the respondent-households, Ilocos Norte, 2009

Variables	Frequency	Percent
Age		
Household heads		
26 - 64 (working age)	59	85.00
65- 87 (old dependents)	11	15.00
Total	**70**	**100.00**
Mean	**51.91**	
Spouses		
26-64 (working age)	60	93.75
65-81 (old dependents)	4	6.25
Total	**64**	**100.00**
Mean	**47.50**	
Children		
0-14 (young dependents)	65	32.50
15-50 (working age)	135	67.50
Total	**200**	**100.00**
Mean	**47.50**	
Educational Attainment		
Household heads		
Elementary	20	29.00
Secondary	21	30.00
Voc/College/Graduate	29	41.00
Total	**70**	**100.00**
Spouses		
Elementary	16	25.00
Secondary	20	31.25
Voc/College/Graduate	28	43.75
Total	**64**	**100.00**
Children		
Elementary	55	27.50
Secondary	50	25
Voc/College/Graduate	95	47.50
Total	**200**	**100.00**

Table 3 cont

Variables	Frequency	Percent
Household size		
2-4 members (small)	31	44.30
5-6 members (medium)	24	34.30
7 or more members (large)	15	21.40
Total	**70**	**100.00**
Mean	**4.81**	
Membership in organization		
No organizational affiliation	26	37.00
1-2	38	54.00
3-4	6	9.00
Employment		
Agricultural	44	63.00
Non-agricultural	26	37.00
Total	**70**	**100.00**

The young dependents under 15 years comprised (30.3%) and the old dependents 65 years and over (7.2%). The mean age of the household heads are older than their female counterpart which does not support the findings of the NSO (2007) that males belong to the younger age group of 49 years and below.

Balisacan (1988) as cited by Quibria (1994) noted that the rural poor tend to belong to relatively young age groups. The results of the study show the other way since the age groups are mostly in the working age of 15–64 years.

Out of the 70 households, 66 households are nuclear families while the remaining four are extended families. Either or together that the mother, unmarried aunts, married children live together in the household.

The mean household size is rather small at 2-4 members (44.3 %) while the rest are either medium-sized of 5-6 members (34.3%) ; or big size having more than 6 members (21.4%). This supports the findings of Flores (1999) that most married and highly educated Filipinos have small to medium family size in order to provide better for the needs of the family. This group believes that, financial or otherwise, it is harder to provide for the needs of a larger than a smaller family. Blanco (2006) also found that majority in his study about the rural household have between 3-5 members. However, the contrary was found out by Castillo (2004) as cited by Blanco (2006) together with Balisacan (1988) as cited by Quibria (1994) that the poor rural households had more than 8 members. They hypothesized that the rural poor have large family size which causes them to be poor. Balisacan argued that family size and low educational attainment negatively affects the income/needs ratio. In a study conducted in Cambodia on rice contract farming, contract and former-contract farmers,' a larger family size tends to be an advantage since larger areas of land require more labor http://www.adbi.or/discussion-paper (02 June 2009).

In relation to investments, the findings of the study of Velasco, and Zepeda (1997) indicated that the average size of the investor families is 5.57 members and that of the non-investor families is 5.65.

Majority (41%) of the household heads were able to finish either a vocational or college degree, high school graduates or high school level (30%) or elementary graduate or elementary level only (29%). This fits to the observation that household heads are older, more educated and are males Cui et al. (2008) http://www.adbi.or/discussion-paper (02 June 2009).

On the part of the spouses, many (43.75%) reached or graduated from vocational school/college level while the rest are either reached or graduated from secondary level and graduate while the rest (31.25%) or the elementary level (25 %). Educated spouses could also be active income earners to augment the income of the household.

The respondent-households had a total of 200 children. Like their parents, (47.50 %) most have attended vocational or college education. The rest are either still in the elementary level or are elementary graduates, (27.50%) or in the secondary level or are high school graduates (25%).

In his research, Blanco (2006) again found no corroborative findings as to the foregoing observations since an equal percentage of the respondents have reached or finished the elementary level.

As to membership in organizations among the household heads majority (54 %) are members of one to two organizations, but a significant number (37 %) has no affiliation at all. Only few (9%) are members of three to four organizations. The organizational affiliations of the household heads are mostly in agri-cooperatives, farmers associations and irrigators associations. These cooperator-households were qualified as secondary beneficiaries of the Seed Dispersal Project (SDP) of MMSU extension under the STEAM-MSTA Program. Secondary beneficiaries are

groups, associations or agencies which are constituted not by the primary beneficiaries but have the legal standing to serve them hence, these households were able to avail of the program (Esteban 2005).

In terms of promoting savings and investment, organizations in the rural areas are important. Zohir as cited in Islam (2006) observed that in Bangladesh village organizations (VOs) members have more savings and investment in agricultural machinery than the non members.

The employment of the households was classified into agricultural and non-agricultural, depending upon the source from which the bulk of the income is derived. Farming still dominates the livelihood of the rural households. Majority (63%) are employed in agriculture. The rest (37 %) are employed in government or either a carpenter, driver, jitney or tricycle operator or a vendor to supplement their income in farming. The findings are in conjunction with the data of BAS (1999) in the province showing the number of farming households (62.32 %) and non-farming households (37.68%).

The above results also jibe with the observation where the major sources of livelihood of the rural people are crop and livestock production, fishing, mining, forestry, and small cottage industries.

Decision-making and risk-taking abilities: Table 4 shows the decision- making and risk-taking abilities of the respondent-household heads. The composite mean (2.45) indicates a moderate decision-making and risk-taking abilities. Among the seven statements, the highest mean score (2.86) is on evaluating outcome of a risky decision which suggests that after having acted on a decision, the household heads tend to think about what they have learned from it. (Marshal in Collins & Lazier 1992) pointed out as the greatest gift a leader can have is the ability to decide.

The ability to decide – to somehow come to a decision even in the absence of a perfect information (and there will *never* be perfect information) as an essential attribute of well-functioning teams and individual leaders (Collins & Lazier 1992).

Table 4: Decision-making and risk-taking abilities scores of the heads of the respondent-households, Ilocos Norte, 2009

Decision-making and Risk-taking Ability	Mean Scores	Description
1. Attitude to change	2.50	Moderate
2. Search strategy	2.64	High
3. Attention to feelings	2.54	High
4. Decision rule	2.20	Moderate
5. Sense of consequence	2.80	High
6. Pre-decision emotions	1.63	Moderate
7. Evaluation outcome of a risky decision.	2.86	High
Grand Mean	**2.45**	**Moderate**

Scale and adjectival ratings
2.51 to 3.00 High
1.51 to 2.50 Moderate
1.00 to 1.50 Low

Under conditions of uncertainty, the decision-maker considers all alternatives open to him to solve a problem, ranks these alternatives in terms of usefulness to the business and chooses that course of action which is most useful to business. Since decisions are realistic only to the extent that various alternatives are considered, the person has to continuously search his environment for possible alternative solutions (SERDEF, UP-ISSI, 1997).

The household heads' mean for their sense of consequence (2.80) indicates that the household heads think of both the good and bad consequences of the decision. For a household head several decisions are also made each day. Many things need to be decided upon and sometimes a bad decision is often better than no decision at all. All important decisions especially on farming-related concerns and on the family rests on the household heads although decision on matters about home-related concerns, finances and child-rearing are usually made by the mother. Children, especially when they are already grown up, make their own choices or decisions concerning personal matters, with of course, the influence of their peers and Information and Communication Technologies (ICTs).

The respondents' high mean score on search strategy (2.64) means that they keep thinking of and go over all the choices at hand before they decide on the best choice. They also must learn to live with the fact that committing mistakes is one way of learning. Making mistakes are in fact a great source of strength. As Paul Galvin, founder

and architect of Motorola said, “Do not fear mistakes. Wisdom is often born of such mistakes” (Collins & Lazier 1992).

The respondents give much attention to feelings (2.54) when they make a decision. This is what many successful executives call intuition. Paul Cook (founder and guiding force through the development of Raychem Corporation), Paul Galvin (founder of Motorola), Sam Walton (Wal-Mart), and William McKnight (builder of 3M) and many other corporate executives were known for having good intuition. Everyone has intuition and the difficulty comes in recognizing and going right to the heart of the problem or decision (Collins & Lazier 1992).

The household head mean score for attitude to change (2.50) shows that the respondents prefer change to security. This suggests a fit to the adage: “*No one is old to learn as they say. There is no shortage of good ideas; there is only a lack of receptivity to ideas”*. This suggests that the households heads’ innovativeness and receptivity to new technologies could enhance the productivity and income of their farms. This trait is also evident in their continuous involvement or participation with the STEAM-MSTA Program.

Decision rule got a moderate mean score (2.20) which means that the household heads believe there is not one right decision and they have to find one that is good enough. As entrepreneurs and as members of an organization, they have to make decisions and commit to courses of actions. It implies, however, that one should be willing to make adjustments and adapt to new information or circumstances. Adaptability and flexibility to any kind of environment and situation is an important characteristic of a farmer.

The decision-making and risk-taking abilities with the lowest mean score is pre-decision emotions (1.63). This means that the respondents do not worry about whatever the results of their decisions are. They have a strong determination and will power to make their projects succeed guided by their willingness to take the risk there they can be classified as innovators or venturesome.

Personal entrepreneurial competencies: Table 5 shows the entrepreneurial competency ratings of the head of the respondent-households. These 55 personal entrepreneurial competencies (PECs) indicate the attitudes and traits pertinent to entrepreneurial activities. The overall mean (2.35), as well as the composite means for each of the achievement, planning, and power clusters (2.35, 2.42, 2.38, respectively),

Table 5: Entrepreneurial competency ratings of the heads of the respondent households, Ilocos Norte, 2009

PERSONAL ENTREPRENEURIAL COMPETENCIES	MEAN SCORES	DESCRIPTION
Achievement Cluster		
Opportunity seeking	2.52	High
Commitment to work contract	2.55	High
Demand for efficiency & quality	2.36	Moderate
Persistence	2.16	Moderate
Risk taking	2.18	Moderate
Composite Mean	**2.35**	**Moderate**
Planning Cluster		
Goal setting	2.45	Moderate
Information seeking	2.35	Moderate
Systematic planning and monitoring	2.45	Moderate
Composite Mean	**2.42**	**Moderate**
Power Cluster		
Persuasion and networking	2.31	Moderate
Self-confidence	2.24	Moderate
Composite Mean	**2.28**	**Moderate**
Overall Mean	**2.35**	**Moderate**

Scale and adjectival ratings
2.51 to 3.00 High
1.51 to 2.50 Moderate
1.00 to 1.50 Low

show that the household head have moderate entrepreneurial competencies. The highest mean scores (2.52 and 2.55) are in the achievement cluster. The planning cluster had the highest composite mean (2.42). Under this cluster, goal setting and systematic planning and monitoring have the same mean scores (2.45).

The findings confirm the view that Filipinos are good planners. They are exceptionally endowed with the ability to see through future events. Andres (2000) avers that setting specific objectives, and goals; establishing policies, programs/ activities, and procedures to achieve the objectives most efficiently and effectively and thinking through the details of the work can be accomplished with maximum certainty and economy which are crucial in any development undertaking. The 12 key management areas of the STEAM-MSTA Program guides the key partners and key players in their different roles for its sustainability. This is a reason why it was recognized the best rural enterprise development on sustainable agri-based technologies in Region I.

While mobilizing the key players to carry out a project or move into action, an entrepreneurial manager may encounter opposition that may jeopardize the project but their success at coalition building usually is done by using the organizations of these households during the pre-dispersal phase when resistance takes a more passive form (Kao 1991). Maintaining the momentum and continuity becomes necessary. This may be the reason that these cooperator-households were able to continue as cooperators of good standing up to the present. Giving them specific direction also gives them more chance to succeed. There is also a need to redesign, if necessary, programs or projects. Keeping the project going and even duplicating could be done by bringing out the accomplishments through external communication, even through the press so that key supporters are updated on the project and its success.

Systematic planning and monitoring is also one of the competencies which the household heads possess to a moderate degree only. Being recipients of the STEAM-MSTA Program makes them aware of the importance of how they could accomplish their tasks by following desired/timely schedules. The endowment of Filipinos as good planners are badly tainted by undesirable attitudes, values and habits developed through periods of colonization and still retained up to the present. Such attitudes include the "*mañana" habit* or the habit of postponing work for the future, and also "*ningas cogon."* These attitudes are manifested during planning, and much so during the implementation of the plan. This adversely affects productivity, hence the moderate mean for efficiency and quality (2.36) under the achievement cluster indicating the need for committed people who know not only the "how to" of the job but also "want to" do the job in the best possible way (Andres 2000).

From among the personal entrepreneurial competencies, persistence and risk-taking has the lowest with mean scores of 2.16 and 2.18, respectively. Persistence is one of the competencies which the household heads lack. The ability of the entrepreneur to persevere even during hard times even if it involves risk is important. But the respondents are not risk-takers. When an entrepreneur calculates the risks of a business, he estimates the odds for success, as well as for failures. On that basis of the estimates, he decides whether to go on or to forget about the business. Due to the uncommon risks inherent in the entrepreneurial role, not many people, end up as entrepreneurs; only the courageous ones who are willing to accept challenges (SERDEF, UP-ISSI 1997). Most people are afraid to fail and therefore they avoid taking risks of any kind. These people are called *"segurista."*

This finding implies that the respondents are willing to make tough decisions that would affect their productivity which could probably increase their income, hence, they become risk-takers. Rosenzweig and Binswanger (1993) found that agricultural investment behaviour of farmers reflects their risk aversion, with poorer farmers accepting lower risk than well-off farmers who can afford to accept higher risk. Hence, they find that wealthier farmers, particularly those with larger farms and diversified incomes, have higher rates of farm investment on a per hectare basis.

Value System: Table 6 shows the value system of the respondents on income generation, money spending and investments. Corporate culture provides insights into understanding how an organization's belief system, social norms and values function. Developing an entrepreneurial organization often depends on the degree to which appropriate values and attitudes are inculcated in the organization's members (Kao 1991). Values actually guide man's behavior and action as he relates with others in most situations in life. Every individual has his own personal values that influence his behavior of what is good and what is bad. The overall mean (2.53) indicates positive economic value. The highest mean score for the value system of the households (2.90), is on the belief that "*rags-to-riches stories are the handiworks of industry, thrift and creating more and more money."* The success stories of individuals become models for people to follow/emulate as these values are essential for a successful career or life.

Positive values are indicated by similar mean scores (2.89) for two statements: **"***money and success in creating more money is what makes a difference between successful/prominent/influential people and the people who are failures, unknown and with little or no influence",* and "*the essence of working is more of providing for today and for oneself not necessarily for tomorrow and for others."* This means that the respondents believe that when money is used to create more money, though how small it is, it has the tendency to grow.

The positive mean (2.84) for the statement, "*starvation is true only to the lazy and to those without dream"* shows that the respondents know that "*kasipagan"* is an essential characteristic of an entrepreneur. This should be coupled with frugality which means putting aside something today to have something to draw if needed tomorrow also an

expression of the value of persistence or perseverance. The respondents are neutral regarding the value of thrift. This is shown by the mean value (1.97) on the statement *"one-day millionaire" sounds convincing* which suggests that although the respondents being Ilocanos are known for their thriftiness or frugality, many find some excitement in being a millionaire, no matter how briefly. They however know that frugality is important as Sam Walton, founder and primary leader of Wal-Mart believed that Wal-Mart's culture is based on frugality.

Table 6: Value system scores of the heads of the respondent-households on income, money spending and investments, Ilocos Norte, 2009

Statements	Mean Scores*	Description
1. Worry not for tomorrow because it will provide for itself.	2.59	Positive
2. Rags-to-riches stories are the handiworks of industry, thrift and creating more and more money	2.90	Positive
3. One work or job is enough	2.04	Neutral
4. Eat, drink and be merry today because you cannot tell about tomorrow.	2.21	Neutral
5. Man is born to work in order to live.	2.87	Positive
6. Nothing is enough, man should continuously work in order to satisfy endless needs, wants and desires	2.81	Positive
7. Man is burdened because of the daily worries of work, money and desires	1.50	Negative
8. Money is not all in order to live with contentment	2.40	Neutral
9. Money and success in creating more money is that what makes a difference between successful/prominent/influential people and the people who are failures, unknown and with little or no influence.	2.89	Positive
10. Starvation is true only to the lazy and to those without dream.	2.84	Positive
11. In this world, it is the proverbial	2.76	Positive
12. The sense and essence of working is more of providing for today and for oneself not necessarily for tomorrow and for others.	2.89	Positive
13. Doing business the right way is a way of helping others	2.84	Positive
14. Why save and invest? These will not be taken with you to the life-after	2.39	Positive
15. "One day millionaire" sounds convincing.	1.97	Neutral
Overall Mean	**2.53**	**Positive**

Scale and adjectival ratings
2.51 to 3.00 Positive
1.51 to 2.50 Neutral
1.00 to 1.50 Negative

In addition, a Filipino value which favors entrepreneurship is human relations or "*pakikipagkapwa"* since it is against any form of exploitation of others. This supports the value *"doing business the right way is a way of helping others"* having a mean score (2.84) which is positive. This is reinforced by the close family ties which are also essential for launching a business, a Filipino character – being surrounded by family members who care enough to support us in whatever way they can. The emphasis on "togetherness" provides plenty of support to any aspiring entrepreneur. If one lacks capital, the family can pool resources which he can borrow and pay without interest; if he needs workers, his kin can help out and render service with the loyalty and dedication which can only come from blood ties. Many values also promote risk-taking or *"lakas ng loob"*which stems from our tremendous capacity to tolerate ambiguity. The value with a positive mean score (2.76) is *"in this world, it is the proverbial "survival of the fittest and the elimination of the unfit".* This speaks of the *"pakikipagsapalaran* reflecting the territorial mobility of people, whether domestic or international which enables people to quickly learn and find it easy to adapt to new and strange situations.

Extra-household Features

The extra-household features of the rural households, the social and physical characteristics are presented in Table 7. The social characteristics include access to services such as education, health, information and communication and transportation

Table 7: Accessibility of respondent-households to social services and physical facilities, Ilocos Norte, 2009

Variables	Mean Scores	Description
Social Factors		
Education	2.27	Accessible
Health	3.00	Very Accessible
Information and Communication	2.91	Very Accessible
Transportation	2.31	Accessible
Composite Mean	**2.62**	**Very Accessible**
Physical Factors		
Access to trade/business	2.91	Very Accessible
Access to leisure facilities	1.45	Not Accessible
Composite Mean	**2.18**	**Accessible**
Overall Mean	**2.40**	**Accessible**

Scale and adjectival ratings
1.00 – 1.50 Not accessible
1.51 – 2.50 Accessible
2.51 – 3.00 Very accessible

services. The physical characteristics are accessibility to trade/business centers as well as access to leisure facilities taken together, social services and physical amenities are generally accessible (2.40) to the households.

Social Characteristics: Social factors as shown by the composite mean of (2.62), are very accessible to the households. Health services (3.00) are the most accessible due to the presence of barangay health centers, clinic, hospital, and pharmacy/drugstore in the community. Blanco (2006) observed the same situation in his study where health facilities and services, except barangay health stations and rural health centers, are moderately accessible and improvements on these have positive effects on productivity (Schultz 1981 as cited by Balisacan 1994).

Information and communication services (2.91) are also very accessible. Majority of the households have their own mobile phones. Likewise, neighbors who have the communication gadgets provide households without any access to such. Aside from the presence of their own mobile phones, some (7%) of the households have landline phones while others (17%) of the households have access to the internet. The advent of ICTs have revolutionized modes of disseminatio of information and technology to various stakeholders. The traditional methods, strategies and approaches of extension has been changed which provide continuous feedback mechanism from various stakeholders.

Both transportation (2.31) and education (2.27) are also accessible. The improvement of road networks makes the different modes of transportation vehicles available in the communities and accessible to the households. Tricycles, public utility jitney and public utility bus are accessible to most of the respondents. Almost one-fourth of the households own either a motorcycle, tricycle or a four- wheel vehicle.

All of them are near elementary and secondary schools. One-fifth of the households have an elementary school within a walking distance from their homes. Secondary schools are also located nearby. Although a tertiary school is not located in Solsona and Pasuquin, the presence of good roads enables their children to attend college in Laoag or Batac. This shows that adequate infrastructure encourages a household to send school-age members to school instead of requiring them to work in the farm.

Physical characteristics: The respondents are also generally have access to trade/business and leisure facilities (composite mean = 2.18). Trade/business facilities (2.91) are very accessible to the households. These are business facilities like sari-sari store, district/barangay market, grocery, hardware and gas station. In a research study conducted (Cui et al. 2008) http://www.adbi.or/discussion-paper (02 June 2009) farmers closer to the market may be able to obtain more information and find it easier to take advantage of the price fluctuations. This is crucial to help them decide on strategies to sell their output.

Leisure facilities (x=1.45), on the other hand, are not accessible to the households. However, the presence of multi-purpose pavements in the community where various activities could be conducted makes the residents more appreciative of leisure after the hard-days work in the field. In addition, games of chance like "*jueteng*" serve as a form of relaxation. Despite the very low probability of winning, the expected high return entices them to continue betting even sacrificing some of the basic household necessities.

In supporting a more conducive investment climate in agriculture, one of the key issues that need to be achieved is improving the rural infrastructure. An efficient services sector can transport goods faster, transmit

Information quickly, facilitate transaction smoothly, reduce transportation costs and provides services that enhance the expanding needs of consumers.

Income, Expenditure, and Investment Patterns of the Rural Households

Income pattern: The issue of income distribution is very important because most of the time, developing countries are not only characterized by high poverty incidence but also by very sharp income inequality. The rich are extremely rich and the poor are very poor. This kind of scenario is one of the greatest impediments to economic growth and development. Income inequality perpetuates poverty by denying the poor opportunities to get themselves out of their economic misery. It also serves to perpetuate a seemingly unending cycle of income inequality and poverty. Income is an important determinant of demand. The purchasing power is merely another name for income.

Farming still dominates in the rural areas. Among the 70 respondent-households of the study, the bulk of their income (32%) comes from salary/wage; some from either farming or business (19%), non agricultural (14%), off-farm (6%) activities, honoraria or remittances of children (4%) and winnings from lotteries (2%). This in a pie graph is shown in Figure 3.

These households are classified as middle-income families having an annual income of Php50,000.00 to PhP249,000.00. This middle-income class, however, is further divided into three different income categories, namely: low middle-income families (PhP50,000.00- PhP99,999.00); middle middle – income families (PhP100,000 – PhP149,999.00), and high middle – income families (PhP150,000- PhP249,999), Villegas (2004). The findings of the study reveal that the households fall between low middle (Php74,098.71) and middle middle-income (Php107,334.03) families as shown by their mean income.

Findings of the present study also show that although farming is the dominant employment of the rural households, the low income derived from it has been outweighed by other income sources. In general, when income is limiting the spending pattern is affected, hence, the higher the income, the higher is the expenditure although it does not necessarily apply to investment (Tullao 2004). There are people who have money but due to the propensity to spend, the attitude of the "*one-day millionaire*" holds true. The socio-demographic characteristics of the households like age, educational attainment and household size are also important considerations. Entrepreneurial abilities, decision-making and risk-taking abilities and the appropriate value system under the intra-household factors, as well as extra-household factors, are necessary in the utilization of the income for the furtherance of economic growth. In addition, strategic and timely agricultural reforms are expected to make farm families more productive, keep farmlands fertile, strengthen rural infrastructure support, and help promote a healthy business and social environment, Neri (2004)

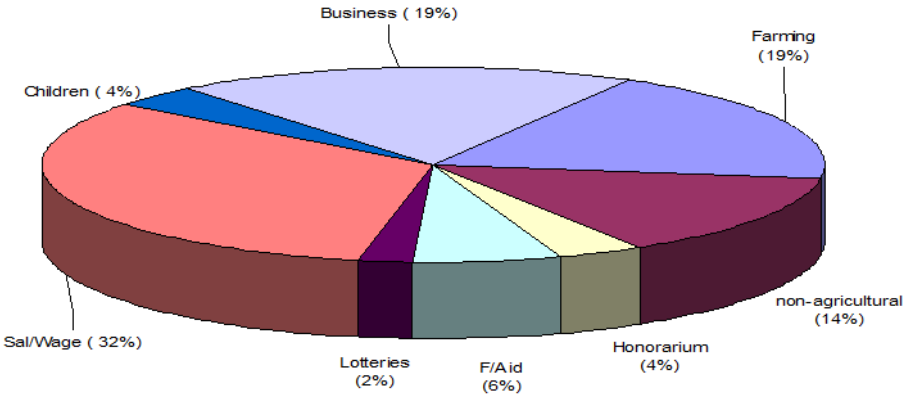

Fig. 3. Pie graph showing the income pattern of the rural households, 2009

Expenditure pattern: Figure 4 shows in pie graph the expenditure or the spending patterns of the household. Almost half of the income goes to food (44%);farming (19%); relaxation (11%); purchase of cell phone (6%); equal percentage of both lottery and electricity (5%); clothing (4%) and social obligation (3%). This supports the observation regarding expenditure distribution of middle-income families that half of the earnings go to food and 5.58 percent for electricity, Villegas (2004). Among the low- income families, a greater proportion of earnings goes to basic necessities like food, which has a 63.3% share to total expenditures and the least is on recreation, taxes and non-durable furnishings. Interestingly, expenditures on education only account for 1% of the total which is not corroborated by the study.

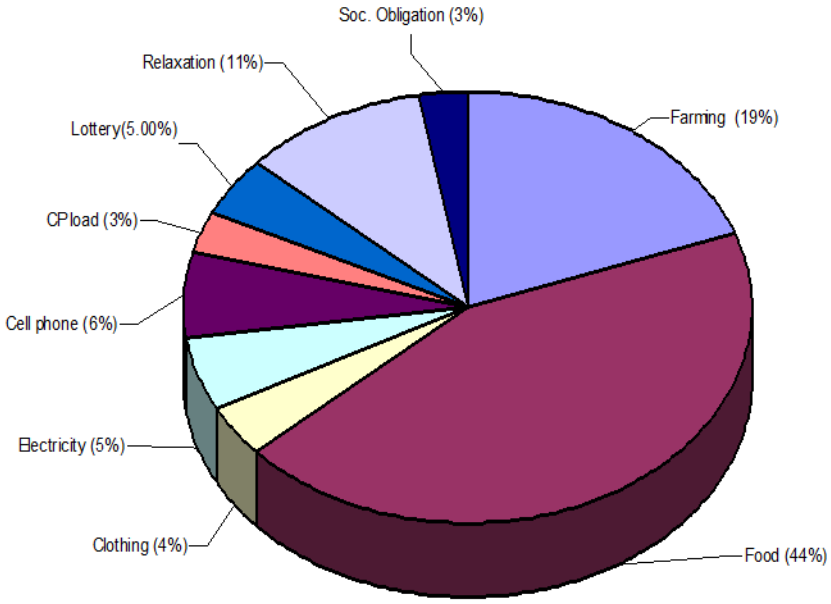

Figure 4. Pie graph showing the expenditure pattern in the rural households, 2009

Investment pattern: Figure 5 shows in a pie graph the investment patterns of the rural households. The highest slice given to investment falls under short-term savings (34%); followed by agri-investments (22%); education (20%); life insurance (16%); share capital in cooperatives (5%); social security (2%) and the least was on health (1%).

Investment is another form of expenditure of goods and services in the output market besides consumption. The households having the biggest slice of the investment on savings reflects that money is stored just for security and liquidity. Money is not invested in order to earn a financial return. Agri-investment is the second biggest investment since these households derive their income mainly from agriculture.

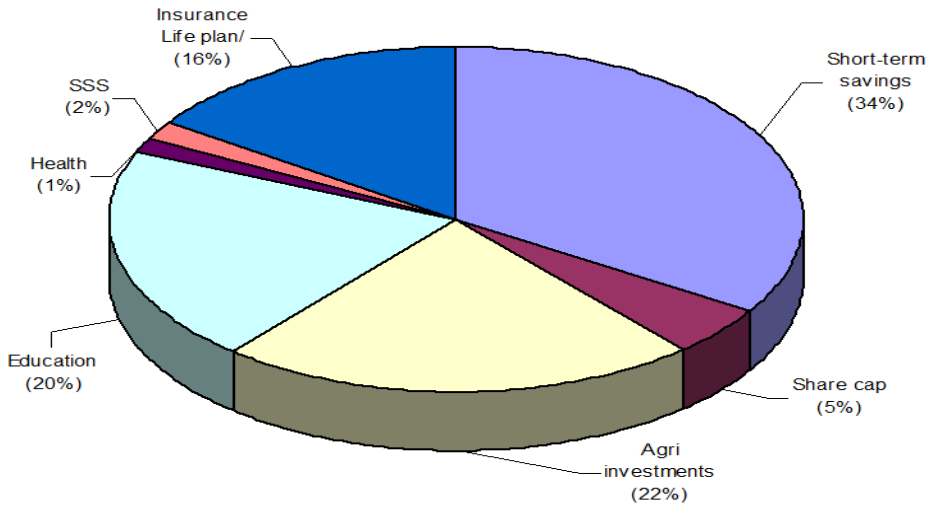

Figure 5. Pie graph showing the investment pattern of the rural households, 2009

Their investment in education is also high since a higher return could be expected for future gains. The same is viewed with respect to life insurance, social security and pension plan as an investment for security for old-age. Since the household heads and their spouses are middle aged, it is not surprising that they are exploring retirement possibilities, buying additional life insurance as well as health insurance and traveling (Hiller 1991). Based on the findings of the study only five out of the 70 households have invested in insurance while 35 have invested in education. The results also show that since the income from agriculture is not so promising, investment is affected. This supports the findings of the study on determinants of agricultural investments by small-scale producers in Peru that non-investment is due to "lack of money" (Zepeda 1998).

The Tested Conceptual Model of the Household Economy

The tested conceptual model of the study showing the predictors of income, expenditure, and investment is shown in Figure 6. Based on the synthesis of the findings of the study, a model was conceptualized that will describe and explain the patterns of the rural household economy. This is called the Limited-Restricted-Constricted (LRC) model.

Theoretically, this model lends plausible explanation to the micro-reality of the significance of increasing incomes and investments to spark off development as espoused by the growth theory of Rostow (1960). This model has deep and wide- ranging implications to the continuing crusade by improving rural welfare thru the households.

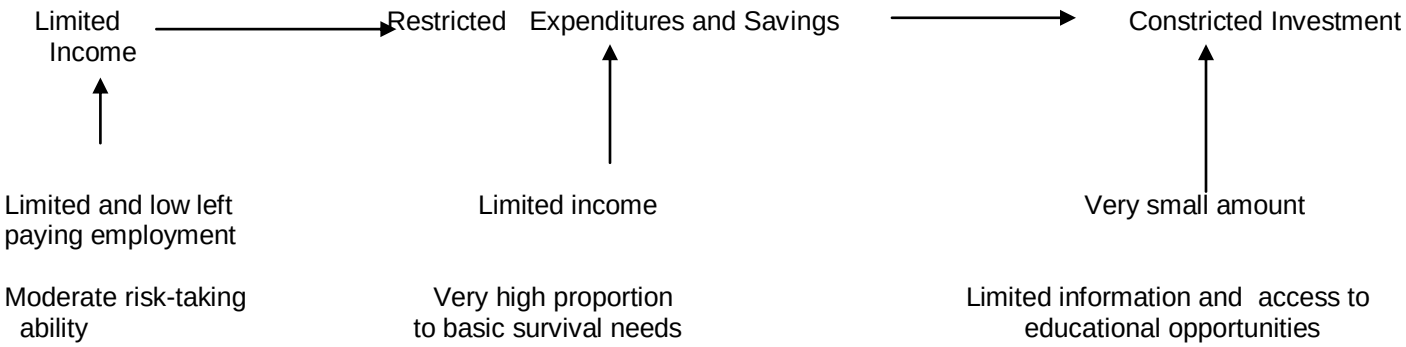

Figure 6: The LRC Model to Describe and Explain the Pattern of the Rural Household Economy

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings of the study, the following conclusions were drawn in line with the problems it sought to address:

The rural households are in the working age (15-64 years) with minimal old dependents from the household heads and spouses. One-third of the children are young dependents. Majority of the household heads, spouses and children had formal education as vocational/college graduates which reveal the importance of human capital investment for social mobility. Generally, the household size is small.

The sources of income of three-fourths of the households are from two to five jobs. The bulk comes from the salaries and wages while farming ranks second and the least from lotteries.

Less than half of the expenditure of the household goes to food or survival needs. The second expenditure-item is on farming and the least was on cell phone load and social obligation both of which has a slice of only three percent each.

Investment of the households goes to short term savings. Although farming is a vulnerable occupation, the households give importance to agri-investments as a second option with education of their children as the third priority.

Employment as a common predictor of income and investment patterns supports the findings that more than one employment necessarily increases income which is not only spent for subsistence but leaves an amount for savings and investment with the view of obtaining income or profit. The findings of the study support the second stage of the growth theory regarding pre-conditions for take-off that as income, savings and investment grow, entrepreneurs emerge. The growth in savings and investment is a necessary condition for economic progress, hence, new types of enterprising men come forward whether in the private economy, in the government or both men who are willing to mobilize savings and to take risks in the pursuit of profit or modernization.

This led to the conceptualization of a model that illustrates of the importance of income, expenditure and investments on the gamut of economic progress in the rural areas. When income is limiting, savings is minimal, hence, expenditure is more for survival needs, therefore, a small amount is left for investment. If this continually exists, the last stage of the growth theory does not become a reality.

Recommendations

The economy of the rural households cannot just depend on only one source of employment like farming, thus rural people should be encouraged and prepared for other employment opportunities in order to have a bigger income not only for their subsistence but also for savings, that could be utilized for investment.

The presence of government and non-government interventions through development programs and projects cannot be underestimated as they are very crucial in community development. Non-governmental organizations also play an increasingly important role in development for they serve as a funnel for development funds both from individual donors and wealthy countries and from bilateral aid agencies. At the same time, NGOs should continue being organizations committed to “doing good” while setting aside profit or politics. Development programs like the STEAM-MSTAP should continuously be implemented and duplicated but with modifications as necessary of the results of evaluation dictate so in order to give the rural people a chance and an opportunity to uplift themselves, attain economic growth and development that will result to a better quality of life.

The competencies possessed by these households reveal their strong entrepreneurial characteristics and spirit despite uncertainties that threaten their enterprises. They are not just only contented with their own subsistence but give importance to education. Investment in education should be increased to give members chances for members of farm households more chances to gain employment outside the farm and thus earn higher household income and make some investments.

These households should also give priority to health, not only for other social services like education, information and communication, and transportation, because better health contributes to higher income.

A further study could be done in other households where government and non-government intervention of any development programs has not been undertaken.

A study of households belonging to the low-income deciles, middle-income deciles, and high-income deciles should also be done.

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