Enterprise, Trade and Finance Group
Central Avenue, Chatham Maritime, Kent ME4 4TB, United Kingdom
Tel: +44 (0)1634 880088; Fax: +44 (0)1634 883706 Email: j.m.downard@greenwich.ac.uk
WWW: http://www.nri.org /rnfe/index.html

Joint Endeavour EC – FAO/SEUR
GCP/INT/758/EC-ARM

NRI Report No: 2683

Constraints and Potential to the Development of Rural Non-Farm Activities in Armenia
MAIN REPORT

A study by Dr. Junior R, Davis (Natural Resources Institute, UK)
with Paruryr Asatrian and Hranusch Kharatyan

Project Implemented by

The Natural Resources Institute (ETF Group)

Contents

Tables

Figures

Notes

AMD	Armenian currency the Dram introduced in 1993
DFID	Department for International Development, UK
EBRD	European Bank for Reconstruction and Development
FAO	UN Food and Agriculture Organisation
FDI	Foreign Direct Investment
GoA	Government of Armenia
HH	Household
HHH	Head of Household
IGA	Income generating activity
IHS	Integrated Household Survey
MSME	Micro and small – medium sized enterprise
NGO	Non-governmental organisation
NRI	Natural Resources Institute
NSS	GoA National Statistical Service
PRA	Participatory rural appraisal
PRSP	Poverty Reduction Strategy Paper
Q&A	Question and Answer
RNF	Rural non-farm
RNFE	Rural non-farm economy
SME	Small-medium sized enterprise
WB	World Bank

The average annual exchange rate is approximately AMD 560 [Dram] to the US dollar.

Introduction

The rural non-farm economy (RNFE) may be defined as being all those activities associated with waged work or self-employment in income generating activities (including income in-kind) that are not agricultural but located in rural areas. Thus, rural non-farm activities might include manufacturing (i.e. agro-processing) and be accumulative (e.g. setting-up a small business), adaptive, switching from cash crop cultivation to commodity trading (perhaps in response to drought), coping (e.g. non-agricultural wage labour or sale of household assets as an immediate response to a shock), or be a survival strategy as a response to livelihood shock. The rural non-farm economy cannot be considered homogenous; rather it is characterised by its heterogeneity, incorporating self-employment, micro and small-medium sized enterprises (MSMEs), and trade activities. Our definition of the RNFE is not solely activity based (waged work or self-employment), as it includes the rural institutional framework (roads, schools, hospitals etc.), which are an integral part of the rural economy.

Accelerating the importance of the RNFE is the disproportionate increase in demand for nonfarm output as incomes rise (the theory of "economic transformation" where the share of the farm sector in GDP declines as GDP per capita rises over time, and Engel's Law, where the share of food in the total household budget declines as incomes rise (Haggblade et. al., 2001)). The transformation process is not identical in all countries and regions, and is shaped in part by such factors as a region's comparative advantage in the production of tradable products (especially agriculture), population density, infrastructure, location, and government policies. Regions with significant recreational, mineral or trade advantages (e.g. a port or highway) may be less dependent on agriculture as a motor of growth, and hence may expand and diversify their RNFE much earlier in the development process. Growth of the RNFE can also be delinked to varying degrees from agriculture by market and trade liberalization policies that enhance non-agricultural opportunities, and these possibilities are increasing with globalization. Many rural regions have greater opportunity today to find additional motors for growth. Moreover, the "motor" does not even have to be local, as long as the local economy is "open" in that workers can commute and local farm and nonfarm firms can sell to the area where the motor is churning. For example, a mine or a big city in a coastal region could induce nonfarm employment growth in the nearby highlands.

The promotion of diversification of activities is critical in fighting poverty in rural areas. The rural non-farm sector is of great importance to rural economy for its productive and employment effects: it offers services and products upstream and downstream from agriculture in the off-farm components of the food system, which are critical to the dynamism of agriculture; while the income it provides farm households represents a substantial and growing share of rural incomes, including those of the rural poor. These sectoral contributions will become increasingly significant for food security, poverty alleviation and farm sector competitiveness and productivity.

Agriculture is the prominent activity in the rural areas of Armenia. It is estimated to represent about 80% of rural employment, which is among the highest in countries in transition. This is partly a consequence of the collapse of industrial and other economic activities at the outset of transition and the difficulties since then to have them recover. This also reflects the insufficient development of the agricultural sector which has yet only partly developed backward and forward linkages which would contribute to the diversification of activities in the rural areas. Conversely, the modernization of the agriculture sector and its capacity to

provide income to the farmers will imply diversification of activities so that the labour force released by agriculture can stay in rural areas. Poverty in rural areas and agricultural development are therefore closely interrelated.

FAO is currently supporting Armenia in designing an agriculture development strategy (TCP/ARM/0065). This project is focusing on the agriculture sector and upstream and downstream sectors. Given the current context of completing a poverty reduction strategy with the support of the donor community, the need arose to complement the agriculture development strategy with a review of the potential of and constraints to activity diversification in the rural areas.

This report will focuses on socio-economic and institutional aspects of the diversification of activities in rural areas.

The report is comprised of the following elements:

1. Identification of patterns of problems, constraints and weaknesses regarding employment schemes and activities in rural areas;
2. Identification of the needs and constraints concerning capacity and capability of government, NGOs and other institutions to assist the rural poor to access employment, micro-enterprise development and livelihood diversification;
3. Identification of possibilities for strategic inter-institutional, horizontal and vertical linkages and private-public partnerships;
4. Guidelines on appropriate and cost effective policies and interventions to assist in points 2 and 3 above will be proposed.

The report provides a coherent set of strategy measures and action programme for the diversification of activities in the rural areas of Armenia. The main findings of this report will complement the Government of Armenia's (GoA) agriculture development strategy delineating the main lines of an action plan for the promotion of activity diversification in rural areas. It is expected that the reports will indicate priorities for the design of technical assistance projects dealing with the diversification of activities and rural development.

The report is organised as follows. The first section provides background information on the RNFE in Armenia. The second section summarises recent agricultural sector and macroeconomic developments in Armenia as they relate to the RNFE. The third section describes the sampled communities socio-economic structure, agricultural sector and natural resource base. Section 4 outlines our regional/community level analysis of the pattern of non-farm rural employment and income generating activities (IGAs) diversification in a transition economy context. Section 5 of the report is based on our social survey and focus group activities which analyse the main determinants of participation in the non-farm economy. The findings from section 5 are then discussed and elaborated upon in Section 6 of the report where data are presented on the activities of "successful" rural non-farm diversifiers – non-farm enterprises – which is presented in the context of the rural economies of the surveyed marzes/ regions (Ararat, Gegharkounik and Syunik). Finally, the main findings of the report are placed in a national context and RNFE policy proposals and suggestions on strategic planning are advanced.

1. The RNFE in Armenia: Background Information

Armenia is the smallest former Soviet Republic outside the Baltic States. It is a mountainous country located in the Trans-Caucasus, bordering on Turkey, Georgia, Azerbaijan, and Iran. Its population is 3.7 million, with another 5 million Armenians living outside the state territory (see Box 1 for more information).

In the Soviet era, Armenia was an industrialised country with a large rural population, a combination it had in common with many socialised countries. In 1990, the last year before its independence and reforms, industry employed 20 % of the labour force, contributed 33 % to value added, and 45 % to gross output. Agriculture employed 13 % of the labour force, contributed 17% to value added, and 13 % to gross output. About 20 % of the population was counted as rural.

Following its independence, the reforms in 1991-1992 comprised privatisation of many productive resources and organisations, a large degree of liberalisation of trade and prices, and decentralisation of economic decision-making. Importantly for the rural economy, Armenia was one of the very few among the former Soviet Republics to privatise agriculture effectively and swiftly during 1991-1992: the overwhelming majority of agricultural land and output is now in small family or peasant farms (Lerman and Mirzakhanian, 2001).

The reforms caused a severe economic contraction, followed by a resumption of growth. In 1993, GDP had declined to 43% of its 1990 level, and subsequently climbed to 62% in 1998. In addition to the shock of system change, violence and natural disaster contributed to a sharp decrease in welfare. In 1990-1994, Armenia was involved in a territorial war, absorbed a large inflow of refugees, and experienced an earthquake affecting 40% of its territory and a third of its population. In 1997 a severe drought followed. *Per capita* levels of income sank during the initial economic decline from USD 1,590 in 1990 to USD 169 in 1994. Also the composition of income changed. In 1991, salaries made up for 55% of incomes. This decreased to 25% in 1994. Salaries were replaced by income sources such as humanitarian aid, remittances, and in-kind income. The dietary quality deteriorated: food consumption declined from 2,181 calories in 19921 to 1,599 calories on average in 1994, and 97% of the population was in so-called 'absolute poverty' in 1994, with a daily *per capita* income of less than 1 USD. In 1999, the situation had slightly improved again, with the poor accounting for 55% of the population, the 'very poor' for 28%, and the 'extremely poor' for 10%. Poverty is concentrated in the cities and among landless rural residents (Ministry, 2000). Since 1993, an estimated 500,000 Armenians have emigrated.

Contemporary data on the Armenian rural economy as a whole were, to the best of the author's knowledge, not available at the time of writing. However, in 1998 a large survey of farm households was implemented, sponsored by the World Bank. The survey covered 75 villages and 7,000 people in 1,500 households, which is .5% of all Armenian farm households. The following information is based on these survey findings, summarised in Lerman and Mirzakhian (2001).

The demographic profile of rural Armenia is 35% children and youth below 18 years of age, 50 % of adults between 18 and 59 years of age, and 15% of people over 60 years old. Education levels, inherited from the Soviet system, are high, with 75% of men and 45% of women having secondary of higher education.

Agricultural underemployment is widespread, but this does not imply a vibrant non-farm economy: 50% of adults do not work full-time on the farm, but only 20% have off-farm incomes, either as salaries or in self-employment. Non-farm income accounts for 72% of cash income and half of total income. The main sources are salaries (40 %) and pensions (23%). Remittances from abroad are also quite important (18 %). Cash savings are held by only 10 % of respondents, but never in a bank. Only a tenth of respondents saved money in the month prior to the survey.

Rural market development appears very limited, if the information provided by farm families is taken as indicative. Land holdings are small, and trade in land is largely absent. Most (on average 56%) of farm output is consumed by the farm household, or bartered (10-60%). Produce that is traded (25%) is usually sold to individuals rather than to enterprises. Also inputs are almost always bought from private individuals. Food processing occurs on 60% of farms, rather than in separate, commercial enterprises. Credit from banks or credit associations is virtually unheard of, although two-thirds of respondents had outstanding, usually small, amounts of debt. The source of this borrowing is most often family and friends, who lend against zero or low interest rates and small, usually liquid collateral if at all.

Unsurprisingly in view of Armenia's recent history, about 45% of respondents report they have experienced a serious economic crisis that has endangered the well-being of their family. Rural poverty, even among food producing households, is clearly evident in the survey. Nearly 40% of respondents report that their family's diet is poor. Nearly two-thirds eat no meat at all, nearly half have two meals a day, and 28% missed meals weekly or daily during the four months preceding the survey. The pattern of these responses is replicated in reported incomes, with an average *per capita* income of USD 1,200 for those reporting a good diet and USD 600 for those reporting a poor diet. In these data there is a sharp dichotomy between a small group of better-off respondents and the poorer majority; and the same is true for reported housing quality, especially in the former earthquake zone.

In consequence, 65% of respondents maintain that they have not enough money for food and basic necessities, and 25% have just enough. In comparison, over half considered themselves comfortably off in 1990 and another 30% think they had then enough money for food and basic necessities. A widespread coping strategy is mutual assistance. About a fifth of respondents had recently received and extended material or practical help to friends or family (Lerman and Mirzakhian, 2001).

1.1. Data collection

In the remainder of this report the findings from two surveys conducted in June 2001 and a detailed participatory rural appraisal and focus group interview exercise conducted during October-November 2001 in Armenia will be presented, followed by some analyses and implications. The survey research was initiated by the National Resources Institute of the University of Greenwich, and implemented in co-operation with a local survey team. The aim was to gain insight into the nature of the non-farm rural economy (RNFE) in the country. The focus in this report is primarily non-farm rural enterprises, non-agricultural income generating activities (IGAs), RNF socio-economic and regional development. We also conducted an extensive participatory rural appraisal (PRA) and focus group exercise conducted during October – November 2001. For the purpose of our RNF enterprise, IGA and regional

development analyses, 21 rural communities in 3 regions (called *marzes* in Armenian) were non-randomly selected. These *marzes* were ***Ararat***, ***Gegharkunik*** and ***Syunik*** (see Figure 1). Since a prime motivation of the report is to study the potential of the RNFE to alleviate rural poverty, selection criteria included poverty levels and the level of development of the RNFE. In the three *marzes*, 45 entrepreneurs active in the RNFE were surveyed, 15 from each region. The communities surveyed were, in ***Ararat Marz***:, Hovtashen, Kaghtsrashen, Ajgepar, Mkhchyan, Dzorak, Dashtavan, Ararat (Urtsadzor, Mkhchyan, Voskepat –main PRA villages). In ***Syunik Marz***: Tolors, Uts, Akhlatyan, Shake, Ishkhanasar, Akner, Verishen. In ***Gegharkunik Marz***: Ljashen, Tsovazard, Gandzak, Karmir Gyugh, Noraduz, Chkalovka, Sarukhan, (Noratus, Lichk, Khachaghbyur –main PRA villages).

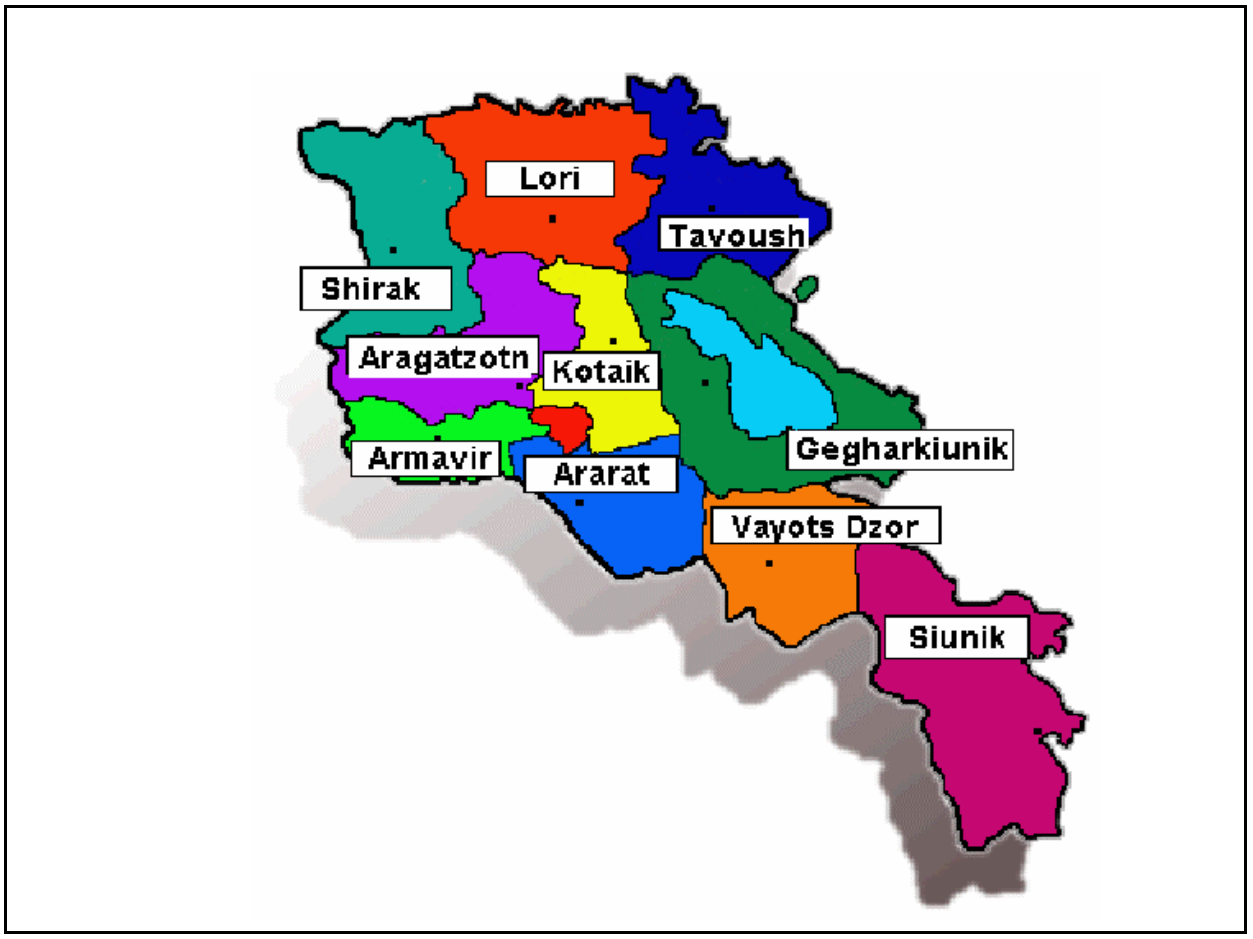


Figure 1 Research Sites for the Report: Map of Armenia

A broad range of methods were used depending on the level of data collection (macro to grassroots), time requirements and staff skills and availability (see Table 1). The decision to employ a particular method was determined by the variety of outputs required and inputs (staffing, time and finance) available. It is important to note that each method may not yield a finite data set. The aim was to acquire knowledge by combining different types of data using triangulation and cross correlation of methods in a complementary manner with community and other stakeholder participation.

Income generating activities are multifaceted and are affected by a wide variety of tangible, material and non-material and less tangible or visible factors. Methods employed for this

report and survey were informed by these complexities and hence the research team had to collect data wider than those of income generating activities (IGAs) per se. Consequently the data incorporates a broad set of conditions, assets analysis related to the way people structure income generating activities as well as the reasons why others cannot access income-generating opportunities.[1]

A further complicating factor that influences data collection is perception, both people's perceptions of their problems as well as what they believe that they should let the interviewer know.[2] Perception data extracted by participatory rural appraisal (PRA) methods are also influenced by people's view of their status and their aspirations. These perceptions are dynamic and change according to local and national context and even seasons.

Hence, for the purpose of this report using methods devised by Meadows (1998) that merged quantitative and qualitative techniques,[3] a mix of contextual and non-contextual data was attained. To ensure the quality of the data gathered methodological triangulation was applied throughout the research process.[4] This is particularly important to verify statements made by participants in focus group discussions or key informant interviews. Triangulation was also used to ensure that such statements, whilst useful to illustrate particular points and issues, are not taken as facts unless corroborated by cross correlation with other data.

[1] Data was collected on both farm related and non-farm IGAs in order to investigate the link between these, sometimes complementary, sometimes contradictory livelihood activities.

[2] Known as the interviewer effect – respondents and participants give answers according to their perceptions of the interviewer.

[3] It is widely accepted that the separation of quantitative and qualitative data creates problems.

[4] Triangulation is the process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation. Acknowledging that no observations or interpretations are perfectly repeatable, triangulation serves also to clarify meaning by identifying different ways the phenomenon is being seen.

Table 1: Issues and assets explored/purpose and methods employed[5]

Issue(s)/Purpose	*PRA & Other Tool(s) Used*
Assessment of community physical/natural assets	Participatory Resource Mapping Collection of secondary data on agriculture, economy, employment and demography
Exploration of local resources and development conditions as well as location and selection of sample for HH questionnaire (gauge of physical, natural and capital assets)	Transect walks Focus group discussions
Understanding of different business activities undertaken by individuals and small organisations (key issue)	Focus group discussions[6]
Gaining in-depth knowledge of specific issues, structures and organisations (key issues)	Key informant discussions[7]
Following up and illustrating specific issues (key issues)	Case studies – semi structured interviews
Gauging perceptions, attitudes, meanings and values (social assets)	Focus group workshops and participatory observation with informal Q & A with community informants
Gender and Ethnic differences in access (social assets)	Gender and ethnic analysis of ranking of key IG activities and problems (problem ranking)
Wealth differences (capital assets) – understanding of different business activities, IGAs employed according to wealth/well-being groups	Wealth ranking
Household variations in activities and problems cross correlated with wealth (a gauge of capital and physical assets), gender, age, education and social circumstance variations (a gauge of human and social assets/distribution of benefits/access barriers)	HH survey – questionnaire Enterprise questionnaire
Identification of needs for the development of the RNFE	Focus group discussions, Key informant discussions RNF enterprise survey

Two questionnaires were used for the quantitative surveys: (i) a community level survey (comprising 21 communities); and (ii) a rural non-farm enterprise survey of firms involved in non-farming activities (45 enterprises were interviewed). Interviewers, through visits to communities and enterprises, conducted the survey. The main community level respondents/ key stakeholders were community leaders and enterprise directors. The following sampling approach was adopted:

- Initially *marzes* were selected based on the level of poverty, the economic-geographical situation, relative RNFE potential and project budgetary constraints. Ararat, Gegharkunik and Syunik *marzes* were also selected because there was value added in locating the surveys in areas within which key donor agencies were involved in related rural development activities.
- Then, based on the same principles, 2 former administrative regions were selected within each *marz*.
- Finally, based on a number of statistical indicators, rural communities were selected (the list of selected communities is presented in the Methods and Approach Report).
- The non-farm enterprises were selected randomly, taking into account the diversification of activities.

[5] For details of the PRA process see Appendix 1.
[6] See Appendix 1 for list of focus group discussions and focus group discussion checklist.
[7] See Appendix 1 for key informant interview checklist.

2. The current socio-economic situation in Armenia: An overview

The beginning of Armenia's transition to a market economy coincided with a sharp economic recession. This was further exacerbated by the conflict in Nagorno-Karabagh, the continuing economic blockade imposed by Turkey and Azerbaijan, as well as the disruption of economic links with other transition economies developed over the previous 50 years.

As a result of the collapse of industry and widespread unemployment, the populations standard of living of declined sharply and more than half of the population fell below the national poverty line.

Despite the unfavourable political and economic conditions, a policy of economic liberalisation was adopted. Land (1991), trade, public food, services (1991-1992) and industries (1995) were privatised. Prices were gradually liberalised, a national currency was introduced, foreign currency markets and stock markets were formed.

A land privatisation programme was initiated in Armenia in 1991, and in a short time numerous farms were formed on the basis of previous collective and state farms. Currently there are more than 335 000 private farms in the country. Small subsistence farms dominate the rural landscape. Most farms in Armenia lack diversified rural livelihoods, access to credit on affordable terms to develop agriculture and alternative non-farm incomes. The rural areas lack decent infrastructure (road, rail, telecommunications), have no access reliable municipal and other commercial services (taxation advice, extension services etc.).

Development of non-farm activities in rural areas can have a significant role in the formation of large farms, which is a very important factor for further development of the agricultural sector. Non-farm activities will also decrease the seasonal unemployment and surplus of labour in rural areas, will contribute to the full use of local resources and will enhance the living standard of the rural population. Non-farm activities, as alternative sources of income, could provide an alternative for those who do not wish to be involved in agricultural production, thus contributing to the formation of a more active land market.

Box 1: **Republic of Armenia – Key facts**

The Declaration of Independence of the Republic of Armenia was adopted on 21 September 1991. The country is situated in south-western Asia. Borders Georgia from the north, Iran from the south, Azerbaijan form the east and Turkey from the west.

Administrative-territorial division

The Republic of Armenia covers an area of 29 743 sq km. The Administrative-territorial Division Act (11 December 1995) divides the country into 11 *marzes*, including the capital city Yerevan, which was granted the status of a separate *marz*. The country has 47 urban communities and 871 rural communities, which include 952 rural settlements.

Demographic features

The population is 3 802 400* (as of 1 January 2001), including:

Urban	2 532 300 or 66.6 percent
Rural	1 270 100 or 33.4 percent

Males constitute 48.6 percent of the population, and females 51.4 percent. The population is highly homogenous, with 96 percent ethnic Armenians. The remaining 4 percent are Yezidis, Kurds, Assyrians, Greeks and other ethnic minorities.

* The actual population figure is smaller, since the migration over the last 10 years has not been taken into account in the official figure. According to the records of the Armenian Department of Civil Aviation, in 1992-2000 the number of people leaving the country has exceeded those entering the country by 644 000.

Land resources

The Republic of Armenia is a mountainous country, about 90 percent of the territory is located at more than 1000 m above sea level. Land resources amount to 2 974 300 ha, including 1 391 400 ha of agricultural land, or 46.8 percent. The distribution of agricultural lands is as follows:

Arable lands	494 300 ha (35.5 percent)
Orchards and vineyards	63 800 ha (4.6 percent)
Grasslands	138 900 ha (10 percent)
Pastures	694 000 (49.9 percent)
Virgin lands	400 ha (0.0 percent)

2.1. Macroeconomic conditions

The uneven growth of the GDP in recent years is mainly due to its large share of agricultural production, which in turn largely depends on natural and climatic conditions. However, the agrarian nature of the country's economy has changed in the past few years (the share of agriculture in the GDP has decreased by 17.6 percentage points over the last five years) (see Table 2).

Table 2 Macroeconomic indicators 1995-2000

	1995	*1996*	*1997*	*1998*	*1999*	*2000*
	Percentage change					
Real GDP Growth	6.9	5.9	3.3	7.3	3.3	6.0
Industrial output	1.5	1.4	1.0	-2.1	5.3	6.4
Agricultural output	4.7	1.8	-5.9	13.1	1.3	-2.5
Inflation (end of year)	32.2	5.7	21.9	-1.3	2.0	0.4
	millions of US $					
Current account	-218.4	-290.7	-306.5	-402.5	-306.9	-278.4
Trade balance	-403.0	-467.1	-547.0	-574.2	-465.6	-459,0
Foreign direct investment	25.3	17.6	52.0	220.8	122.0	104.2
GDP per capita	342	424	433	499	486	504
General government balance (% of GDP)	-6.0	-4.3	-2.6	-3.7	-4.1	-4.9
Share of agriculture in GDP (%)	40.7	34.8	29.4	30.8	27.0	23.1
Share of industry in GDP (%)	24.3	23.4	22.5	19.9	21.2	22.1
Unemployment (% of labour force)	6.7	9.3	10.8	9.4	11.2	11.7

Source: National Statistical Service RA

The uneven growth of the GDP in recent years is mainly due to its large share of agricultural production, which in turn largely depends on natural and climatic conditions. However, the agrarian nature of the country's economy has changed in the past few years (the share of agriculture in the GDP has decreased by 17.6 percentage points over the last five years).

The current account deficit of the balance of payments in 2000, amounted to US$ 278.4 million, which was a 10 percent drop compared to 1999, and 30 percent decline compared to 1998. The current account deficit in the GDP was 14.5 percent in 2000, 16.6 percent in 1999 and 21.3 percent in 1998. The external trade deficit increased from US$ 403 million in 1995 to US$ 574.2 million in 1998. Compared to 1998, in 2000 the trade deficit shrunk by US$ 155 million, while the volume of external trade increased by US$ 60 million in the same period. There are positive changes in the structure of external trade: less raw-material and more finished products are exported, and the share of industrial reserves and capital goods has increased in the import structure. Controlling the rate of inflation is a prime priority for the Central Bank of Armenia. Compared to 1995, GDP per capita has increased by 1.5 times, however it continues to be small at US$ 504. The unemployment rate of 11.7 per cent is high and still rising. This may in part be the result of hidden unemployment.

2.2. Agriculture

Farms producing more than 90 percent of the gross agricultural product in the country are characterised by their small size (1.37 ha of arable land per farm), mixed farming practices (an average farm produces 6-8 types of agricultural products) and low volumes of commercial farming (50 percent of production is for commercial purposes).

The gross agricultural product has undergone significant structural changes in the past few years. In 1990, crop production amounted to 58 percent and livestock production constituted 42 percent of the gross product, while in 2000 the figures were correspondingly 47 percent and 53 percent. This is a result of the decrease in forage cultivation, combined with the difficulties in importing animal feed. The production of cereal crops and potato increased at the expense of forage crops, which was a result of difficulties in providing the population with basic foodstuffs.

2.3. Employment

According to the estimates of the National Statistical Service (NSS), the economically active population[8] in the country in 2000 was 1 452 500, 11.7 percent of whom were unemployed. 72.3 percent of the employed were in the private sector, 26.9 percent in the public sector, 0.8 percent in non-governmental, religious and other organisations. During the transition to a market economy, changes occurred in the sectoral composition of employment. The share of agricultural employment increased from 17.7 percent in 1990 to 44.2 percent in 2000, while the share of employment in industry and construction decreased from 42 percent to 20 percent during the same period.

According to the NSS workforce survey of 1999, 18.4 percent of the employed had informal/non-contractual employment (based on verbal agreements). The share of such employment is the highest in wholesale and retail trade at 66.7 percent, as well as agriculture at 64.7 percent. According to the survey hidden employment amounted to 18 percent of the economically active population. There is also hidden unemployment, which is mainly the result of keeping all employees on the payroll -- for various reasons -- in non-operational or partially operational enterprises. According to the NSS survey the share of hidden unemployment in the economically active population is 14.5 percent.

As previously noted, according to the NSS and UNDP farm survey, conducted in 1999 and financed by the World Bank, 36.6 percent of family members surveyed were employed in their own farm, 2 percent were paid workers in other farms, 2.7 percent were employed in manufacturing, trade and services, 6.6 percent were in the public and social sectors, 5.3 percent were home workers or involved in other activities. The remaining 46.8 percent were pensioners (12 percent), children of pre-school age (10.8 percent) and students (24 percent).

Agricultural employment is highly seasonal. According to the farm survey, conducted among 3400 farms by NSS and UNDP in 1997-98, the seasonal distribution of agricultural activities is as follows:

[8] Active population = employed + officially unemployed

Whole year	36.1 percent	3-6 months	19.4 percent
7-9 months	39.8 percent	Up to 3 months	4 percent

2.4. Poverty

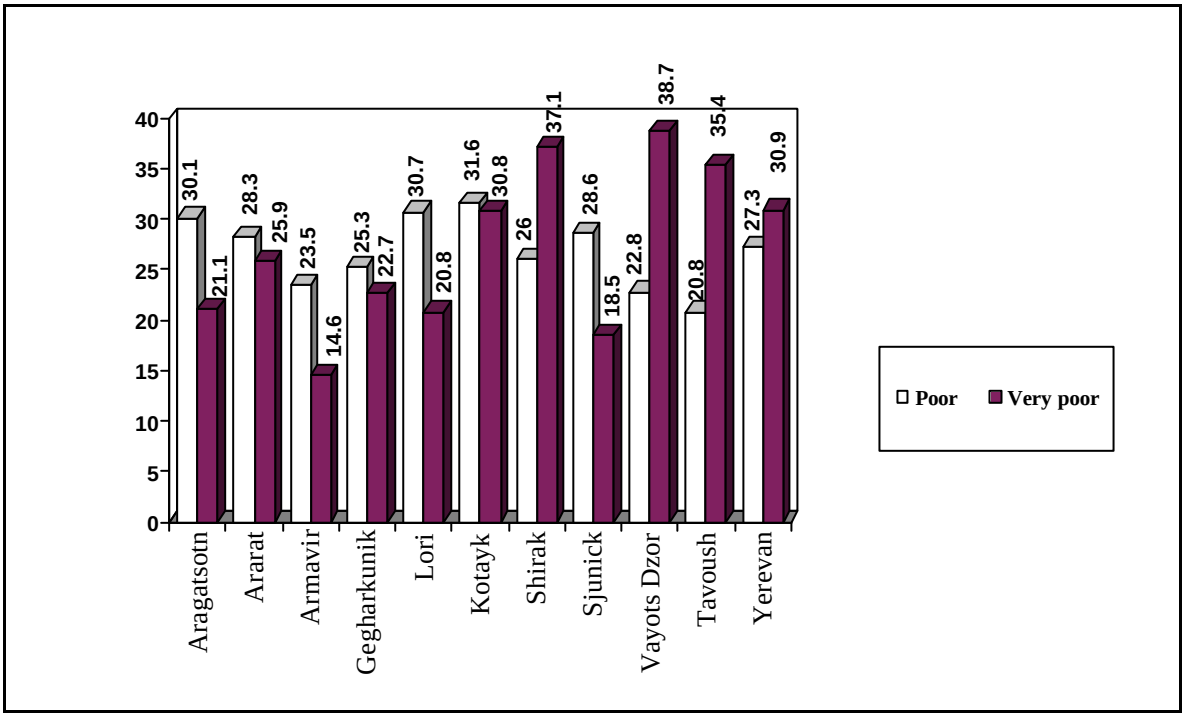
Although poverty is endemic in rural Armenia, it is not spread equally throughout the population. There are measurable gaps between villages (depending on size and quality of land) and between households, with those that obtained the best quality land, most livestock, and heavy farm machinery, now occupying the upper 10% or so, while households whose members received land during the second round of privatisation, did not obtain livestock, and/or lack able-bodied adults are now among the poorest households (Dudwick, 1996). By the standards of 1990, a majority of rural households could be considered "poor," since they no longer have access to the plethora of subsidised services guaranteed under socialism. Also families are always vulnerable to natural catastrophes and illness, either of which can catapult them into sudden poverty.

According to the "Integrated Household Survey" conducted by the NSS in 1998-99, 54.7 percent of the total population were poor, 27.7 percent of whom were extremely poor. Poverty risk groups were defined as follows:

a) Poor: income per capita is less than the minimum consumer basket;
b) Very poor: income per capita is less than the minimum food basket.

According to the NSS the value of the minimum consumer basket at the end of 2000 was AMD[9] 13,335, and the value of minimum food basket AMD 8,176 (providing 2,100 Kcal per day).

Figure 2 Impoverished population (%) by marz



[9] AMD denotes the Armenian currency, the Dram, which was introduced in 1993. After initial hyperinflation, the Dram value had been quite stable since 1995. Its value is about 500 dram to the US dollar (in 1998).

According to the same survey, the rural population is less prone to the risk of poverty, which is due to their capacity to provide for basic foodstuff on a more or less stable basis. However, the living standards of the rural population appear to be correlated with their location, particularly altitude above sea level. The poorest communities in Armenia reside in mountainous regions. The share of households below the poverty line, on altitudes of up to 1,300 m is 42.4 percent, while this figure increases to 58 percent for households above 1,700 m. According to the survey, the income of the richest 20 percent of the Armenia population is 32.2 times higher than those of the poorest 20 percent.

3. Description of sampled communities/ marzes

3.1. Basic data: Ararat, Gegharkunik and Syunik

In this section of the report we briefly outline the main socio-economic, agricultural and topographic characteristics of the marz's and communities surveyed for this report. We conclude this section with an analysis of labour market and diversification patterns/trends. As previously noted, the three marzes studied were Ararat, Gegharkunik and Syunik (see Appendix 1, and Figure 1). We believe that these marzes viewed collectively, are representative of Armenia in general, but in particular in terms of the wide range of activities, climate, ethnic groups, and topography of the country.

Table 3 Basic data: Ararat, Gegharkunik and Syunik

	Ararat Marz	*Gegharkunik Marz*	*Syunik Marz*
Area, km^2	2096	5348	4506
Agricultural Land, ha	99067	240033	194339
Of which Arable land, ha	29961	95238	48356
Town communities	4	5	7
Rural communities	93	87	106
Villages	94	93	128
Population, thousand persons (1.01.2001)	311,2	278,7	164,1
Of which Urban	99,0	102,2	115,2
Rural	212,2	176,5	48,9

3.1.1. Ararat Marz

The Ararat region is comprised of 4 urban and 94 rural areas, occupying 7% of the total land area of the Republic of Armenia. In 2000 the population of the region comprised 8,2% of the Armenian population. 68% of Ararat's population resides in rural areas. In 2000 Ararat GDP comprised 5.6% from industrial production and 16.7% from agricultural production. Retail trade turnover and services in Ararat accounts for 2% of retail trade turnover and 2.8% of the services provided in Armenia.

The main crops cultivated in Ararat *marz* are vegetables, fruit, grape and in recent years also cereals. There are a number of processing factories for agricultural products in the *marz*. In 2000 as compared to the previous year the decline in recorded industrial production was 0,3%. Ararat has 8,5 thousand job seekers, which comprises 4,8% of the total number of job seekers in Armenia.

3.1.2. Gegharkunik Marz

In terms of territory the Gegharkunik marz is the largest in the Republic of Armenia, occupying 18% of the territory. It includes 5 cities and 93 rural areas. In 2000, the population of the region comprised 7,3% of the total population of Armenia, of which 63% reside in the rural areas. In 2000, the share of Gegharkunik's GDP accounted for by industrial production was 2,5%, agricultural production was 13,8%, and total retail trade turnover was 2,2%.

The region specialises in the production of cattle and related breeding products, cereals and potatoes. The lake of Sevan, which is one of the most popular Armenian leisure areas is also located in Gegharkunik. Thus, as compared to the other marzs surveyed infrastructure and services are comparatively well developed in Gegharkunik.

In 2000, industrial production grew by 1.9% as compared to the previous year. This was due to growth in radio, TV and communication devices and equipment, textile and other productions. Retail trade turnover and services in Gegharkunik accounts for 1.7% of retail trade turnover and 2.2% of the services provided in Armenia. Gegharkunik has 10.9 thousand job seekers, which comprises 6.1% of the total number of job seekers in Armenia.

3.1.3. Syunik Marz

The Syunik region is comprised of 7 cities, 128 rural areas and occupies 15%of the territory of the Republic of Armenia. With the exception of the Yerevan region, Syunik is the most urbanized: 70-71%of its population resides in cities. In 2000 the population of the region comprised 4,3% of the total population of Armenia. In 2000, the share of Syunik's GDP accounted for by industrial production was 7.3%, agricultural production was 7.9%, retail trade turnover was 1,2% and services was 1,7%.

The region specialises in cattle-breeding, food and cereals production. As compared to the previous year, in 2000 industrial production grew by 20,5%, which was due to an increase in mining and related industrial production. Retail trade turnover and services in Syunik accounts for 1,3% of retail trade turnover and 1,7% of the services provided in Armenia. Syunik has 15.7 thousand job seekers, which comprises 8,8% of the total number of job seekers in Armenia.

Table 4 Description of sampled communities

Communities	*Population (persons)*	*Number of households*	*Household size (average)*	*Altitude*	*Average annual rainfall (mm)*	*Annual medium temp(^{0}C)*	*Prevalent soil types*	*Geographic*
Hovtashen	1222	301	4,06	800	350	20	dark brown	plain
Kaghtsrashen	3104	646	4,80	850	310	19	dark brown	plain
Ajgepar	1527	427	3,58	830	300	15	dark brown	plain
Mkhchyan	5052	1330	3,80	900	350	18	dark brown	plain
Dzorak	1944	725	2,68	833	300	19	dark brown	plain
Dashtavan	1764	549	3,21	833	340	20	dark brown	plain
Ararat	7700	2410	3,20	800	350	18	dark brown	plain
Ararat marz *(average)*	**3188**	**913**	**3,49**		**329**	**18**		
Tolors	450	112	4,02	1720	220	17	clay, sandy	mountain
Uts	520	167	3,11	1600	190	17	clay, sandy	mountain
Akhlatyan	624	179	3,49	1750	150	15	clay, sandy	mountain
Shaki	1410	364	3,87	1700	300	13	clay, sandy	mountain
Ishkhanasar	224	65	3,45	1710	160	13	clay, sandy	mountain
Akner	1362	289	4,71	1700	620	15	clay, sandy	mountain
Verishen	2500	523	4,78	1600	650	15	clay, sandy	mountain
Siunik marz *(average)*	**1013**	**243**	**4,17**		**327**	**15**		
Ljashen	4188	1113	3,76	1900	400	5	chernozem	mountain
Tsovazard	2030	490	4,14	1900	500	5	chernozem	mountain
Gandzak	4076	1667	2,45	2050	500	6	chernozem	mountain
Karmir Gyugh	5843	2020	2,89	2050	500	6	chernozem	mountain
Noraduz	5683	1720	3,30	1950	500	6	chernozem	mountain
Chkalovka	512	129	3,97	1900	500	5	chernozem	mountain
Sarukhan	7832	3206	2,44	2100	500	6	chernozem	mountain
Gegharkunik *(average)*	**4309**	**1478**	**2,92**		**486**	**6**		

Despite its size, Armenia can be divided into 7 agro-climatic zones. Altitudes vary between 380-4090 m, averaging at 1800 m. Climate and precipitation differs significantly in various zones. Natural and climatic conditions in the 21 communities included in the survey are diverse (see Table 4). Altitudes range from 800 to 2100 meters above sea level, average annual temperatures from 5 to 20^o C, average annual precipitation's form 160 to 650 mm, etc. Naturally soil types are also different. All these factors account for the agricultural specialisation of a given region.

The average population density in the surveyed communities is 90.66 people per km^2 (see Table 6). Whereas, the highest density in Aygepar (528.37 people per km^2) is 27.7 times higher than the lowest density in Akhlatyan (19.05 people per km^2).

Table 5 Population density

	Communities	*Population, total*	*Total area (km^2)*	*Density (persons/km^2)*
Ararat marz	Hovtashen	1222	4,08	299,51
	Kaghtsrashen	3104	6,08	510,53
	Ajgepar	1527	2,89	528,37
	Mkhchyan	5052	9,86	512,37
	Dzorak	1944	3,84	506,25
	Dashtavan	1764	3,93	448,85
	Ararat	7700	58,80	130,95
Syunik marz	Tolors	450	20,85	21,58
	Uts	520	19,91	26,12
	Akhlatyan	624	32,75	19,05
	Shaki	1410	62,00	22,74
	Ishkhanasar	224	9,40	23,83
	Akner	1362	18,90	72,06
	Verishen	2500	23,73	105,35
Gegharkunik marz	Ljashen	4188	52,43	79,88
	Tsovazard	2030	27,28	74,41
	Gandzak	4076	42,29	96,38
	Karmir Gyugh	5843	64,90	90,03
	Noraduz	5683	68,33	83,17
	Chkalovka	512	20,63	24,82
	Sarukhan	7832	104,15	75,20
Total sample		59567	657,03	90,66

3.2. Land

Land privatisation was initiated in 1991. It was one of the most comprehensive land privatisation programmes introduced by a CIS transition economy including orchards and vineyards. This is one of the underlying reasons for the large share of private arable land in the surveyed communities, which constitutes 69.8 percent of the total arable land and 77.3 percent of private agricultural land (see Table 6). In Tolors community (Syunik *marz*) all arable land is private, and in 8 other communities private arable land constitutes around 80 percent of the total. The relatively low share of private land in the total agricultural area is a result of the low level of privatisation of pastureland, which constitutes 50 percent of the total agricultural area in Armenia. In the surveyed communities, there is not even one hectare of privatised pasture. It should also be noted that farmers and other businesses can lease non-privatised land from communities and *marz* governments. Nonetheless, the relatively low share of privately owned land may have implications for developing non-farm rural enterprises, as land is often the main source of collateral for accessing formal sources (banks etc.) of rural credit.

3.3. Land ownership

As previously noted Armenia is a homogeneous country (96 percent of the population are ethnic Armenian), and as a result land ownership has a mono-ethnic structure (see Table 7).

Table 6 Land structure hectares - (community level)

	Communities	Total area			Total agricultural area				Total arable area			
		ha	of which: Total private area		ha	% of total area	Total private agricultural area		ha	% of total agricultural area	of which: total private arable area	
			ha	%			ha	% of total agric area			ha	% of private agric area
Ararat marz	Hovtashen	408	150	36,8	170	41,7	135	79,4	139	81,8	104	77,0
	Kaghtsrashen	608	436	71,7	441	72,5	411	93,2	161	36,5	137	33,3
	Ajgepar	289	168	58,1	175	60,6	157	89,7	84	48,0	71	45,2
	Mkhchyan	986	431	43,7	510	51,7	396	77,6	429	84,1	330	83,3
	Dzorak	384	146	38,0	183	47,7	136	74,3	147	80,3	118	86,8
	Dashtavan	393	210	53,4	206	52,4	175	85,0	204	99,0	173	98,9
	Ararat	5880	1245	21,2	3128	53,2	891	28,5	820	26,2	772	86,6
Syunik marz	Tolors	2085	441	21,2	1421	68,2	411	28,9	411	28,9	411	100,0
	Uts	1991	839	42,1	1961	98,5	811	41,4	1150	58,6	800	98,6
	Akhlatyan	3275	619	18,9	3254	99,4	601	18,5	850	26,1	600	99,8
	Shaki	6200	1199	19,3	4152	67,0	1155	27,8	1776	42,8	1136	98,4
	Ishkhanasar	940	58	6,2	870	92,6	50	5,7	660	75,9	50	100,0
	Akner	1890	341	18,0	1205	63,8	316	26,2	169	14,0	160	50,6
	Verishen	2373	500	21,1	2273	95,8	446	19,6	123	5,4	96	21,5
Gegharkunik marz	Ljashen	5243	1961	37,4	3316	63,2	1811	54,6	1680	50,7	1359	75,0
	Tsovazard	2728	994	36,4	1661	60,9	814	49,0	739	44,5	538	66,1
	Gandzak	4229	1354	32,0	2597	61,4	1204	46,4	1198	46,1	754	62,6
	Karmir Gyugh	6490	1600	24,7	3839	59,2	1420	37,0	1636	42,6	1140	80,3
	Noraduz	6833	2644	38,7	4194	61,4	2364	56,4	2472	58,9	2064	87,3
	Chkalovka	2063	648	31,4	1267	61,4	588	46,4	444	35,0	416	70,7
	Sarukhan	10415	867	8,3	5416	52,0	767	14,2	1370	25,3	405	52,8
	Total sample	**65703**	**16851**	**25,6**	**42239**	**64,3**	**15059**	**35,7**	**16662**	**39,4**	**11634**	**77,3**

Table 7 Ethnic structure of land endowment -hectares (community level)

		Total land per person				*Total agricultural land per person*				*Total arable land per person*			
	Communities	*Armenians*	*Russians*	*Yezdis*	*Others*	*Armenians*	*Russians*	*Yezdis*	*Others*	*Armenians*	*Russians*	*Yezdis*	*Others*
Ararat marz	Hovtashen	0,12	1,00	0,13	0	0,11	1	0,13	0	0,08	1	0,07	0
	Kaghtsrashen	0,14	0,60	0,16	0,33	0,13	0,6	0,16	0,33	0,04	0,6	0,12	0,33
	Ajgepar	0,11	0	0,10	0	0,10	0	0,10	0	0,05	0	0,08	0
	Mkhchyan	0,08	0,05	0,13	0	0,08	0,05	0,13	0	0,06	0,05	0,12	0
	Dzorak	0,08	0	0	0	0,07	0	0	0	0,06	0	0	0
	Dashtavan	0,22	0	0	0	0,11	0	0	0	0,11	0	0	0
	Ararat	0,16	0	0,07	0	0,12	0	0,07	0	0,10	0	0,07	0
Syunik marz	Tolors	0,98	0	0	0	0,98	0	0	0	0,98	0	0	0
	Uts	1,61	0	0	0	1,56	0	0	0	1,54	0	0	0
	Akhlatyan	0,99	0	0	0	0,96	0	0	0	0,96	0	0	0
	Shaki	0,85	0	0	0	0,82	0	0	0	0,81	0	0	0
	Ishkhanasar	0,26	0	0	0	0,22	0	0	0	0,22	0	0	0
	Akner	0,25	0	0	0	0,23	0	0	0	0,12	0	0	0
	Verishen	0,20	0	0	0	0,18	0	0	0	0,04	0	0	0
Gegharkunik marz	Ljashen	0,47	0	0	0	0,43	0	0	0	0,32	0	0	0
	Tsovazard	0,49	0	0	0	0,40	0	0	0	0,41	0	0	0
	Gandzak	0,33	0	0	0	0,30	0	0	0	0,18	0	0	0
	Karmir Gyugh	0,27	0	0	0	0,24	0	0	0	0,20	0	0	0
	Noraduz	0,47	0	0	0	0,42	0	0	0	0,36	0	0	0
	Chkalovka	1,52	0	0	0	1,47	0	0	0	1,04	0	0	0
	Sarukhan	0,10	0	0	0	0,01	0	0	0	0,05	0	0	0

As shown in Table 7, there is no correlation between land size per capita and ethnicity. This is because land was privatised free of charge and allocated to all citizens (based on the number of family members). The larger per capita land areas for some ethnic groups (for example Russians) in some communities is not a result of preference for a particular ethnic group. In Hovtashen community, for example, where Russians have 7-8 times more land per capita than other ethnic groups, there is a Russian with only 1 ha of arable land. In Armenia, arable land plots are small averaging 1.37 hectares per household.

3.4. Mechanisation of agriculture

As a general observation, the general mechanical endowment is low. There are very different levels of mechanisation in different communities. As presented in Table 8, the number of trucks per 100 hectares varies between 0.3 (Ishkhanasar) and 10.7 in (Sarukhan), number of tractors between 0.9 (Ishkhanasar) and 9.5 (Aygepar), number of motor tillers between 0.2 (Ishkhanasar) and 4.8 (Aygepar). Davis and Cristoiu (2002) found that in Romania, there was on average 35.3 hectares of arable land per tractor and 416.7 hectares per combine. (It should be noted that in 1993, the workload was 13.5 hectares / tractor in the UK, 13.4 in Poland, 12.9 in France and 8.9 in Italy while the workload per combine harvester was 90 hectares per combine in Poland, 79.4 in Italy, 71.4 in UK and 47.4 in France (Beeney, 1993; MAF, 2000). To some extent it is difficult to generalise on the basis of a small sample; however, it should be noted that households with 1.37 ha average land size and a staple cropping pattern cannot acquire any machinery using exclusively agricultural income. Moreover, at this farm size, owning a tractor would be inefficiently used, unless mechanical services were also provided

Table 8 Mechanical asset endowment (community level)

(Number per 100 ha arable area)

	Communities	*Trucks*	*Tractors*	*Plough for tractor*	*Combine harvester*	*Seeding machine*
Ararat marz	Hovtashen	2,2	5,8	2,9	0	1,4
	Kaghtsrashen	1,9	5,0	2,5	0	1,2
	Ajgepar	3,6	9,5	4,8	0	2,4
	Mkhchyan	2,3	1,4	0,9	0	0,5
	Dzorak	1,4	2,0	1,4	0	1,4
	Dashtavan	10,3	5,9	1,5	0	1,0
	Ararat	3,0	4,0	3,0	0,1	1,8
Syunik marz	Tolors	1,0	1,7	0,7	0,5	0,5
	Uts	0,4	1,2	0,3	0,1	0,3
	Akhlatyan	1,2	1,3	0,6	0,2	0,5
	Shaki	2,9	2,0	0,4	0,3	0
	Ishkhanasar	0,3	0,9	0,2	0	0
	Akner	1,2	3,6	1,8	0	0
	Verishen	4,1	6,5	3,3	0,8	0
Gegharkunik marz	Ljashen	3,2	1,6	1,5	0,5	0,7
	Tsovazard	3,7	3,1	2,7	0,8	0,9
	Gandzak	6,0	3,3	2,9	1,4	1,0
	Karmir Gyugh	7,2	2,8	2,4	0,7	1,3
	Noraduz	4,6	1,0	0,8	0,4	0,6
	Chkalovka	2,7	1,1	1,1	0,2	0,7
	Sarukhan	10,7	3,1	4,4	0,5	1,8

In general farms in Syunik *marz*, have the lowest number of available agricultural machinery. The lack of cereal combines or seeding equipment in some communities is a result of the small areas under cereal. Machinery owners in neighbouring communities usually cover the regional machinery shortages. Opportunities to use mechanical assets that could conceivably be utilised as collateral for loans (for inputs, to diversify on-farm activities or to finance a micro-enterprise start-up) seem to be limited.

3.5. Agricultural production

As a result of land privatisation, large farms were broken-up into smaller units and consequently subsistence farming became prevalent. In the surveyed communities, the consumption structure of agricultural products is mainly formed on the basis of farm specialisation (see Table 9 and Table 10). In the communities of Ararart *marz* vegetables, fruit, grapes, melons, meat and milk are highly commercial products, in Syunik *marz* only meat, and in Gegharkunik meat and to some extent cereals and potatoes are commercially traded. In general, amongst agricultural products, meat is considered the most marketable on local commodity markets. In 16 of the 21 communities surveyed more over 50% of the meat produced is marketed, due to the continuous demand for fresh meat and its stable price.

As expected, household self-consumption is prevalent for all major crops and in all communities (Table 9). Maize, plums, peaches, grapes for consumption and wine are entirely or nearly 100% used at home in almost all communities. Also, more than 60% of cereals (except in Ararat marz), potatoes and eggs are used to cover home consumption. Gegharkunik marz seems to have the highest level of home consumption of agricultural output while also having the least diversified agricultural output (however, fishing is very important in this marz). On the other hand, crops for processing such as sugar beet, together with vegetables, melons and wine grapes are traded to a greater extent. Regarding the processing of crops, this is possibly due to the prevalence of informal arrangements and that many of these crops are much less useful to retain for home consumption than to sell to local processing industries, while vegetables are a fast source of income and mainly occupies household labour, especially that of children and elderly members of a household.

It should be noted that the cultivated areas with processing crops in the private agricultural sector declined in recent years, due to both their higher degree of mechanisation requirements and the collapse/restructuring of the processing industry. We found that the barter economy is still strong. Barter trade is still conducted in large volumes, particularly in Syunik *marz*. In the surveyed communities, on average 10-15 percent of agricultural products were bartered. In communities of Syunik *marz*, the share of bartered agricultural products is 20-30 percent, which is possibily due to the *marz's* remoteness from large urban centres. Relatively large volumes of individual products are bartered in Ararat city (15-30 percent), and the Ust and Verishen communities of Syunik *marz* (30-60 percent). The strength of barter and its persistence in rural communities indicates a lack of cash liquidity in rural economies. However, it also suggests that there is some entrepreneurial activity within these communities and potential for the development and expansion of a viable agri-processing sector. Subsistence agriculture remains vital to most of the rural population's livelihoods as a source of income and food consumption.

Table 9 Agricultural output used at home in 2000 (% of production)

	Communities	*Cereals*	*Potatoes*	*Vegetables*	*Fruits*	*Grapes*	*Grapes for wine*	*Melons*	*Wine*	*Vodka*	*Meat*	*Milk*	*Eggs*	*Wool*
Ararat marz	Hovtashen	40	80	10	10	30	20	10	100	100	10	20	80	60
	Kaghtsrashen	80	100	20	20	30	100	5	40	80	10	20	80	60
	Ajgepar	40	80	10	10	30	20	10	100	100	10	20	80	60
	Mkhchyan	60	80	40	80	20	20	10	20	60	10	70	60	20
	Dzorak	100	50	40	0	0	0	0	0	0	5	40	70	100
	Dashtavan	93	56	35	0	100	0	0	0	0	20	50	80	100
	Ararat	43	0	23	24	19	100	80	60	50	50	70	70	30
Syunik marz	Tolors	50	50	70	0	0	0	0	0	0	10	80	80	20
	Uts	70	50	90	30	0	0	0	0	0	10	40	50	90
	Akhlatyan	90	70	100	100	0	0	0	0	0	5	80	70	70
	Shaki	90	55	65	85	0	0	0	0	0	55	65	75	75
	Ishkhanasar	65	55	100	0	0	0	0	0	0	40	45	60	70
	Akner	0	80	90	0	0	0	0	0	0	10	30	100	100
	Verishen	100	90	10	0	0	0	0	0	0	40	60	70	30
Gegharkunik marz	Ljashen	50	40	80	100	0	0	0	0	0	50	60	60	60
	Tsovazard	60	50	100	100	0	0	0	0	0	40	70	60	50
	Gandzak	60	40	90	100	0	0	0	0	0	50	80	80	60
	Karmir Gyugh	60	40	70	100	0	0	0	0	0	60	80	80	60
	Noraduz	0	60	100	100	0	0	0	0	0	50	80	60	50
	Chkalovka	50	40	100	100	0	0	0	0	0	30	60	80	50
	Sarukhan	60	30	100	100	0	0	0	0	0	60	60	80	60

Table 10 Traded agricultural output in 2000 (% of production)

	Communities	*Cereals*	*Potatoes*	*Vegetables*	*Fruits*	*Grapes*	*Melons*	*Wine*	*Vodka*	*Meat*	*Milk*	*Eggs*	*Wool*
Ararat marz	Hovtashen	50	20	90	90	60	90	0	0	90	80	20	40
	Kaghtsrashen	15	0	80	80	70	95	60	20	90	80	20	40
	Ajgepar	50	20	90	90	60	90	0	0	90	80	20	40
	Mkhchyan	40	20	60	20	80	90	80	0	90	30	40	80
	Dzorak	0	50	40	0	0	0	0	0	95	60	30	0
	Dashtavan	2	44	50	0	0	0	0	0	80	50	20	0
	Ararat	25	0	45	61	64	20	0	0	50	30	30	70
Syunik marz	Tolors	25	25	10	0	0	0	0	0	80	10	10	40
	Uts	0	5	0	10	0	0	0	0	90	35	20	10
	Akhlatyan	5	10	0	0	0	0	0	0	80	20	10	20
	Shaki	2	15	25	0	0	0	0	0	10	20	0	25
	Ishkhanasar	10	15	0	0	0	0	0	0	25	40	25	30
	Akner	0	10	5	0	0	0	0	0	90	60	0	0
	Verishen	0	6	40	0	0	0	0	0	60	40	0	70
Gegharkunik marz	Ljashen	40	50	20	0	0	0	0	0	50	30	40	40
	Tsovazard	20	40	0	0	0	0	0	0	60	30	30	20
	Gandzak	30	50	0	0	0	0	0	0	50	5	10	30
	Karmir Gyugh	30	50	20	0	0	0	0	0	40	10	20	40
	Noraduz	0	30	0	0	0	0	0	0	45	0	30	40
	Chkalovka	40	40	0	0	0	0	0	0	60	30	10	40
	Sarukhan	30	50	0	0	0	0	0	0	40	30	15	30

Animal density per 100 ha of arable land varies largely between the surveyed communities (see Table 11). Interestingly enough, the highest animal density is recorded in the surveyed communities of Ararat *marz*, where the share of pastures and grasslands in the total agricultural areas is 46.7 percent, while in Syunik the share is 64 percent, and in Gegharkunik 56.8 percent. (It was not possible to calculate areas under forage crops in the surveyed communities through survey results. However, according to the NSS these figures are similar in all three *marzes*: Ararat 22.9 percent, Syunik 27.7 percent and Gegharkunik 33.5 percent).

Table 11 Livestock density in 2000 (community level)

		Per 100 ha total agriculture land area (heads/area)								
	Communities	*Cattle*	*Dairy cows*	*Sheep*	*Coasts*	*Horses*	*Pigs*	*Chickens*	*Turkeys*	*Ducks*
Ararat marz	Hovtashen	156,5	83,5	394,1	5,3	0,6	68,2	610,0	17,6	11,8
	Kaghtsrashen	60,3	32,2	151,9	2,0	0,2	26,3	235,1	6,8	4,5
	Ajgepar	152,0	81,1	382,9	5,1	0,6	66,3	592,6	17,1	11,4
	Mkhchyan	122,4	58,6	274,9	0	0,2	2,2	857,1	0	0
	Dzorak	71,0	45,9	100,0	52,5	0	2,7	366,1	168,9	54,6
	Dashtavan	164,6	77,2	25,7	13,6	0	9,2	436,9	9,7	48,5
	Ararat	22,7	16,6	76,7	16,3	0,5	3,8	159,8	3,2	0,6
Syunik marz	Tolors	24,2	11,4	25,9	2,8	0,8	0,1	17,5	0	0
	Uts	22,7	11,2	20,4	0,3	0,4	0,8	23,9	0	0
	Akhlatyan	22,8	9,7	13,3	4,5	0,9	0	27,7	0,9	0,2
	Shaki	20,9	12,0	24,0	1,0	1,0	2,0	22,9	0	0
	Ishkhanasar	14,1	7,5	16,9	0,6	0,9	1,1	11,5	5,7	2,3
	Akner	86,9	41,2	21,2	1,1	4,8	4,1	106,9	0	0
	Verishen	58,5	40,5	59,4	0,6	0,7	7,9	101,2	1,1	0
Gegharkunik marz	Ljashen	80,2	54,3	36,2	0,3	0,7	2,3	90,5	3,0	3,0
	Tsovazard	53,2	24,8	121,5	1,2	1,9	14,8	409,4	9,0	12,0
	Gandzak	46,2	24,1	46,3	0	0,7	5,1	117,3	4,7	4,5
	Karmir Gyugh	21,1	14,3	13,0	0	0,4	0,8	39,1	0,8	0
	Noraduz	45,1	21,1	32,2	0,7	0,6	1,2	159,8	2,6	2,1
	Chkalovka	43,8	32,5	43,2	1,3	0,9	1,2	79,7	4,7	3,9
	Sarukhan	36,6	22,1	24,0	0	0,3	0,9	66,5	3,7	0

Differences in animal density and areas under forage crops are mainly due to the high population density in Ararat *marz*. By the number of animal heads per capita, communities in Ararat *marz* are in the third place, after those of Syunik and Gegharkunik *marzes*. Farms simply keep as many animals as is necessary for satisfying the needs of their families for livestock products.

3.6. Seasonal labour and migration

Often in resource-poor areas with no latent potential in agriculture, tourism or natural resource exploitation, prospects for growth in rural non-farm activity are bleak. In the absence of these standard motors of rural economic growth, households respond by migrating, or enabling a key member of the household to migrate temporarily to send remittances back to the family. Thus migration is an important livelihood survival strategy. Data regarding the annual outward migration of the workforce from the surveyed communities for seasonal employment (during the year inward migration of the workforce was recorded only in the Shaki community: 5 workers came from other parts of the country for 3 months of farm employment), and the characteristics of the workforce are presented in Table 12.

Table 12 Characteristics of the seasonal labour force

		Outflow labour force					
		Average age	*People finding seasonal work outside the community (%)*		*Ethnic groups finding seasonal work outside the community (%)*		
			Men	*Women*	*Armenian*	*Yezdis*	*Russian*
Ararat marz	Hovtashen	35	100,0	0	100,0	0	0
	Kaghtsrashen	35	100,0	0	70,0	30,0	0
	Ajgepar	35	100,0	0	100,0	0	0
	Mkhchyan	38	60,0	40,0	90,0	10,0	0
	Dzorak	36	80,0	20,0	100,0	0	0
	Dashtavan	35	100,0	0	100,0	0	0
	Ararat	40	60,0	40,0	80,0	20,0	0
Syunik marz	Tolors	50	50,0	50,0	100,0	0	0
	Uts	30	100,0	0	100,0	0	0
	Akhlatyan	0	0	0	0	0	0
	Shaki	27	100,0	0	100,0	0	0
	Ishkhanasar	30	100,0	0	100,0	0	0
	Akner	33	93,3	6,7	100,0	0	0
	Verishen	30	85,0	15,0	100,0	0	0
Gegharkunik marz	Ljashen	35	100,0	0	100,0	0	0
	Tsovazard	35	100,0	0	100,0	0	0
	Gandzak	40	100,0	0	100,0	0	0
	Karmir Gyugh	40	100,0	0	100,0	0	0
	Noraduz	40	100,0	0	100,0	0	0
	Chkalovka	0	0	0	0	0	0
	Sarukhan	40	100,0	0	100,0	0	0

Those leaving for seasonal employment are mainly 30-40 years old. The absolute majority are men; the share of female migrant workers is high in Tolors, Mkhchyan and Ararat communities (40-50 percent), Besides Armenians, Yezidis are the only other ethnic group active in employment related to seasonal migration. Unfortunately we were unable to collect data on the importance of remittances as a proportion of household income. However, anecdotal evidence (through discussions with key stakeholders) suggests that in the poorest households it can account for 10-18% of an households annual income. In mountainous regions remittances account for around 18% of household annual income.

Among the 21 surveyed communities, seasonal outward migration was not recorded in 2 communities only: Akhlatyan and Chkalovka, which differ from other communities by their relatively low population density (see Table 5). The geographical distribution of seasonal workforce migration is presented in Table 13.

Table 13 Migratory destinations and types of employment taken up by people who temporarily leave the community

Commune from which they leave		*Where do they go abroad*			*Type of work*			*How long do they work away before returning*
		Russia	*CIS*	*Europe*	*Agriculture*	*Construction*	*Trade*	*Days per annum*
Ararat marz	Hovtashen	●				●		180
	Kaghtsrashen	●					●	180
	Ajgepar	●				●		180
	Mkhchyan			●			●	365
	Dzorak	●					●	270
	Dashtavan	●				●		210
	Ararat	●					●	300
Syunik marz	Tolors	●				●		365
	Uts	●				●		180
	Akhlatyan							0
	Shaki	●				●		210
	Ishkhanasar	●				●		180
	Akner	●				●		365
	Verishen	●				●		180
Gegharkunik marz	Ljashen	●				●		60
	Tsovazard	●				●		240
	Gandzak	●				●		210
	Karmir Gyugh	●				●		240
	Noraduz	●					●	240
	Chkalovka							0
	Sarukhan		●			●		240

As shown in Table 13, the main destination for Armenian seasonal and or migrating workers is Russia. In 17 of the 19 surveyed communities with outward labour migration people prefer seeking employment in Russia, which is mainly due to previous ties, knowledge of the Russian language and the absence of visa requirements. Most migrants appear find work abroad in the construction industry, farming and trade sectors.

Seasonal migration is usually for around 6-9 months, and in some communities (Mkhchyan, Tolors and Akner) for the whole year (this may well reflect permanent rather than temporary migration). Considering that usually it is the male head of the family who migrates for seasonal employment often during key periods of agricultural production (e.g., harvesting, as opportunities for farm work in Russia are also sought during harvest times) the majority of own-farm work is shared between women and children. Thus, as is often found in less developed countries (e.g. Sub-Saharan Africa) where migration by the male head of households to seek employment abroad or in distant locations has resulted in a large number of female headed households, who are also the primary farmers.

Anecdotal evidence from our focus group exercises suggest that in the poorest rural communities perhaps the single most lucrative source of non-farm income comes from working abroad. For those resource poor villages with poor quality land, the majority of able-bodied men between 18 and 60 seek work abroad. Sometimes fathers withdraw teenage sons from school to accompany them. Many travel by invitation to construction sites in Russia, occasionally Ukraine, in small groups of relatives or fellow-villagers. Most men leave for a six to nine-month season, although if they are unsuccessful they sometimes continue for one or two seasons to earn money for their return.

Families sometimes sell assets or borrow money, sometimes from moneylenders, to raise funds for the road, which means the very poorest are excluded from this. Also, borrowing money can seriously indebt a family if the migrant is unable to earn enough to repay the debt. Since the lack of effective banking and postal systems makes transferring funds difficult, men usually wait until a trusted acquaintance returns to Armenia, so families often receive remittances with great delays (see Dudwick, 1996). However, remittances make a considerable difference to a family's economic position -- urban and rural non-poor reported that a third of their income consists of remittances and cash assistance from relatives, while the poor report that only 10% of their income derives from this source.[10]

[10] "Land Reform and Private Farms in Armenia: 1996 Status."

3.7. Employment[11]

In the surveyed communities the male/female proportion coefficient is near 1, the highest male proportion is in Aygepar community with 53.8 percent, and the lowest in Akner community with 44.8 percent. In summary, out of the 21 communities surveyed there are more males in 11 communities, 9 communities have more females and in one community the numbers are equal.

Table 14 Male / Female ratio (community level)

		Male / Female Ratio	
		Total	*of which: active*
Ararat marz	Hovtashen	1,06	0,96
	Kaghtsrashen	1,16	1,05
	Ajgepar	1,17	0,95
	Mkhchyan	1,04	1,05
	Dzorak	0,84	0,90
	Dashtavan	0,99	0,99
	Ararat	0,92	0,90
Syunik marz	Tolors	1,01	0,98
	Uts	0,88	0,93
	Akhlatyan	0,99	0,94
	Shaki	0,92	0,91
	Ishkhanasar	1,13	0,97
	Akner	0,81	0,92
	Verishen	0,97	0,98
Gegharkunik marz	Ljashen	1,00	0,98
	Tsovazard	0,98	0,84
	Gandzak	1,03	1,15
	Karmir Gyugh	1,01	0,94
	Noraduz	1,01	0,95
	Chkalovka	1,01	1,00
	Sarukhan	1,05	1,12

[11] The Armenian National Statistical Service (NSS) definitions relating to employment are used in this report:
Employed – A person is considered employed, if he is an employee and is paid by cash or barter, or is not an employee, but makes profit or has a family income (including those working in farms).

Self-employed – is a person, who works in his own enterprise by himself, or with one or more partners, and has not permanently employed anyone (for working throughout the reporting period) (he has the right to hire temporary employees).

In search of employment/ job-seeker – a person is in search of employment, if in the preceding period they have taken the following steps for establishing their own business or finding employment:

- Registered in state or private employment agency;
- Application submitted to employer;
- Queueing in various fields;
- Asking friends and relatives;
- Searching for construction materials, machinery, etc. for creating own business;
- Application for receiving financial assistance;
- Applications for receiving licenses.

The situation changes completely, when we consider the ratio of males/ females in the economically active population. In this regard, women are prevalent in 16 communities out of the 21, and men are prevalent in only 4 communities. Survey results show that the ratio of men to women in the 16-24 age group is near 1 (0.99), which suggests a relatively higher employment rate for women in agriculture. Within the economically active population, women have the highest share in Tzovazard community with 54.2 percent, and the lowest share in Gandzak community with 46.6 percent. In the surveyed communities, 69.6 percent of economically active women are self-employed or hired employees, for men the share is 67 percent (see Table 16). There are more men involved in non-farm activities (8 percent compared to 2.8 percent among women). There are more women in the social sector (6.9 percent compared to 6.4 percent among men), while there are more male job-seekers (12.2 percent), than women (10.4 percent).

Within the agricultural sector, the share of self-employed or hired men is higher in only 6 communities out of the 21 surveyed. Whereas, 4 of these communities are in Syunik *marz* (Ust, Akhlatyan, Akner, Verishen), one in Ararat *marz* (Ararat city) and one in Gegharkunik *marz* (Karmir Gyugh).

Table 15 Employment of the active population

Communities		*Number of the Total active population*		*of which, %*													
		Self-employed in Agriculture		*Employed in Agriculture*		*Self-employed in Non-agriculture*		*Employed in Non-agriculture*		*Employed in Public sector*		*Job seeker*		*Other*			
		male	*female*	*male*	*female*	*male*	*female*	*male*	*female*	*male*	*female*	*male*	*female*	*male*	*female*	*male*	*female*
Ararat marz	Hovtashen	298	310	67,8	79,0	0	0	1,3	1,3	0	0	7,4	8,4	23,5	11,3	0	0
	Kaghtsrashen	797	759	79,4	81,2	2,3	3,3	1,6	0	1,8	1,6	4,9	7,4	10,0	6,6	0	0
	Ajgepar	342	359	56,1	62,1	0	0	1,8	0,3	0,9	0,3	6,1	9,5	35,1	27,9	0	0
	Mkhchyan	1398	1337	88,1	88,4	0	0	2,1	0,0	1,1	0	1,5	7,3	7,2	4,3	0	0
	Dzorak	595	660	56,8	74,5	1,7	1,2	6,7	7,6	2,0	1,5	3,0	6,1	29,7	9,1	0	0
	Dashtavan	488	493	80,9	81,5	0	0	3,3	0,6	0	0	4,3	9,3	11,5	8,5	0	0
	Ararat	2079	2342	67,3	50,0	8,7	15,8	1,0	5,1	1,4	2,1	5,8	8,5	15,9	17,5	0	1
Syunik marz	Tolors	178	162	81,5	85,8	2,8	3,1	5,6	0	1,1	3,1	3,4	6,2	5,6	1,9	0	0
	Uts	183	197	79,2	76,1	2,2	0	0	0	0,5	0,5	2,7	8,1	15,3	15,2	0	0
	Akhlatyan	174	236	64,9	53,8	0	0	1,1	0,4	0	0	16,7	14,0	17,2	10,6	0	21,2
	Shaki	410	400	63,2	76,0	7,3	5,8	2,9	0,8	6,3	0	3,2	10,0	17,1	7,5	0	0
	Ishkhanasar	74	76	60,8	73,7	0	0	10,8	0	0	0	14,9	10,5	13,5	15,8	0	0
	Akner	373	389	79,4	73,5	0,3	0	0,8	0	0,8	0	4,0	3,3	8,0	20,6	6,7	2,6
	Verishen	906	980	65,6	60,3	1,1	0,4	0,6	0	0,8	0,2	3,3	8,2	1,7	1,5	27,0	29,4
Gegharkunik marz	Ljashen	892	950	56,1	68,4	5,6	0	7,3	6,3	6,7	1,1	12,3	4,2	11,2	10,5	0,8	9,5
	Tsovazard	544	564	73,5	79,8	1,8	0	1,1	0	0,9	0,4	2,8	1,4	11,6	8,9	8,3	9,6
	Gandzak	1811	1627	33,1	50,0	9,9	1,2	2,2	0	6,8	1,1	7,0	8,0	11,6	7,4	29,3	32,3
	Karmir Gyugh	1151	1831	52,1	49,2	4,3	0	4,3	2,7	8,7	2,7	8,7	2,7	17,4	8,2	4,4	34,5
	Noraduz	1370	866	62,0	69,3	0,7	0	14,6	0,7	2,2	1,2	5,8	9,2	14,6	19,6	0	0
	Chkalovka	255	197	31,4	45,7	0	0	0,8	0	0,8	0	3,9	4,1	16,1	18,8	47,1	31,5
	Sarukhan	1574	2100	55,5	82,9	12,7	1,4	6,4	0,5	12,7	0,2	12,7	6,7	0	8,3	0	0
Total sample		15892	16835	62,2	66,7	4,8	2,9	4,0	1,8	4,0	1,0	6,4	6,9	12	10,4	6	10

Most non-farm activities are undertaken by men in the surveyed communities. Of the 21 communities surveyed, only the Ararat and Dzorak communities of Ararat *marz* report a greater involvement of women in non-farm activities than men. For 93.9 percent of economically active men and 97.3 percent of women involved in agricultural activities, farming is the main employment (see Table 16). Whereas, it is considered as the main employment in all 7 communities surveyed in Ararat *marz*, and in 4 out of 7 communities surveyed in Gegharkunik *marz*. The share of men, for whom farming is a secondary activity, is relatively higher in Ishkhanasar (29.7 percent), Karmir Gyugh (29.4 percent) and Noraduz (26.1 percent) communities, and for women in Ishkhanasar (12.5 percent), Verishen (11.8 percent) and Shaki (11.7 percent) communities.

The structure of the active population involved in farming and non-farm activities, according to primary and secondary employment, is presented in Table 17. Farming is the main source of employment for 89.6 percent of economically active population in the surveyed communities of Ararat *marz*, while in Syunik *marz* the share is 77.6 percent, and in Gegharkunik *marz* 45 percent.

In the surveyed communities in Gegharkunik *marz*, non-farm activity is the main source of employment for 36.7 percent of the active population, and in Karmir Gyugh community (the only one in the sample) the proportion of the population with a non-farm activity as a primary job (41.5 percent) is higher than those with farming as the main source of employment (33.5 percent). In all the communities of Gegharkunik *marz* there is a high proportion of public sector employees among people involved in non-farm activities, and in Karmir Gyugh a large number of people are also involved in fishing. There are a high number of public sector employees in Gegharkunik because of the need to police illegal fishing and environmentally regulate pollution levels in Lake Sevan.

The crops grown in Ararat *marz*, require a high degree of labour, as compared to those grown in Syunik and Gegharkunik *marz*. Also, commercially attractive crops such as grapes, flowers, stone fruit etc., are grown in this marz, and incomes are on average higher within the rural communities of Ararat, than most others. As a result, there may be less time or desire to devote scarce resources to the development of secondary employment activities.

In summary, agriculture remains the primary employer in these marzes, but most of the farming on household plots is done by women (particularly in migrant households). Men are more prevalent in the non-farm employment sphere and the main area of RNF employment is the public sector (within which women are particularly active).

3.7.1. Gender aspects of the RNF employment

Because men and women occupy distinctly different positions in Armenian society and perform different tasks inside and outside of the household, the problems and constraints of accessing employment in impoverished areas affect men and women differently. Labour is dichotomized along gender lines, with women bearing responsibility for housework and child care, while men take care of heavy work and represent the family in the community. During the Soviet period, however, even in rural communities, women participated actively in the labour force. Because education had not only practical but also prestige value, many rural families tried to ensure their daughters a higher education, even though she was not expected to pursue a career. Among women 18 to 60, women's educational achievement almost equals

that of men. Not surprisingly, gender differences in educational attainment are greatest among those over sixty.[12] (Dudwick, 1996).

Better off families can maintain the traditional gender divisions of labour, in which men perform heavy manual work with farm machinery and draft animals, such as harrowing, sowing, harvesting grain, and irrigating, while women harvest vegetables, milk cattle, and preserve fruit and vegetables. Poor families (whose poverty is often caused or exacerbated by the lack of able-bodied men) must rely more heavily on women, who perform considerably more heavy farm labour than their less poor counterparts. Poor women not only perform the kinds of heavy labour better off families reserve for men, but they still have responsibility for the traditionally female tasks of preserving food for the winter and baking bread (previously purchased in state shops). Furthermore, now that farm enterprises no longer subsidise child care facilities, those kindergartens still functioning charge fees which poor families cannot afford. Child care has thus become yet one more responsibility for women, who sometimes keep their older children home from school to look after younger siblings while they themselves do farm work.

Because rural Armenians of both sexes tend to view female involvement in public affairs negatively, women must rely on husbands, fathers, sons, and brothers to represent household interests. Unmarried, widowed or divorced women have serious disadvantages if they must manage their own household affairs, especially since access to resources of all sorts depends extensively on unofficial contacts and arrangements. When women engage successfully in income generating activities by selling farm produce or processed dairy products, or through petty trade, their standing within the household rises. However, without strong external encouragement (outside the community), it seems unlikely that women will participate in farmers' organisations, water-user associations, or other community organisations, despite their considerable labour input into farming (see Table 16).

[12] Among the 18-60 group, 18.4% of men and 14% of women had higher or uncompleted higher education; 32.7% of men and 31.3% of women had a technical secondary education; 38.5% of men and 43% of the had a general secondary education. Of those over sixty, half as many women (13.4%) had a higher, uncompleted higher, or technical secondary education as men (24.7%). "Land Reform and Private Farms in Armenia: 1996 Status."

Table 16 Gender structure of the active population involved in farming

Communities		*Total Active Males in Farming*					*Total Active Females in Farming*				
		N	*of which*				*N*	*of which*			
			Primary occupation		*Secondary occupation*			*Primary occupation*		*Secondary occupation*	
			N	*%*	*N*	*%*		*N*	*%*	*N*	*%*
Ararat marz	Hovtashen	272	272	100,0	0	0	280	280	100,0	0	0
	Kaghtsrashen	710	710	100,0	0	0	654	654	100,0	0	0
	Ajgepar	312	312	100,0	0	0	310	310	100,0	0	0
	Mkhchyan	1332	1332	100,0	0	0	1239	1239	100,0	0	0
	Dzorak	520	520	100,0	0	0	527	527	100,0	0	0
	Dashtavan	395	395	100,0	0	0	402	402	100,0	0	0
	Ararat	1902	1902	100,0	0	0	2016	2016	100,0	0	0
Syunik marz	Tolors	153	145	94,8	8	5,2	132	127	96,2	5	3,8
	Uts	154	146	94,8	8	5,2	166	152	91,6	14	8,4
	Akhlatyan	145	121	83,4	24	16,6	153	140	91,5	13	8,5
	Shaki	310	270	87,1	40	12,9	349	308	88,3	41	11,7
	Ishkhanasar	64	45	70,3	19	29,7	64	56	87,5	8	12,5
	Akner	318	299	94,0	19	6,0	299	286	95,7	13	4,3
	Verishen	619	589	95,2	30	4,8	679	599	88,2	80	11,8
Gegharkunik marz	Ljashen	500	500	100,0	0	0	650	650	100,0	0	0
	Tsovazard	420	400	95,2	20	4,8	500	450	90,0	50	10,0
	Gandzak	600	600	100,0	0	0	813	813	100,0	0	0
	Karmir Gyugh	850	600	70,6	250	29,4	950	900	94,7	50	5,3
	Noraduz	1150	850	73,9	300	26,1	670	600	89,6	70	10,4
	Chkalovka	80	80	100,0	0	0	90	90	100,0	0	0
	Sarukhan	874	874	100,0	0	0	1740	1740	100,0	0	0
Total sample		**11680**	**10962**	**93,9**	**718**	**6,1**	**12683**	**12339**	**97,3**	**344**	**2,7**

Table 17 Structure of active population involved in farming and non-farming activities (by primary or secondary occupation)

Communities		*Total active population*	*Total active population in farming*				*Total active population in non-farming*			
			Primary occupation		*Secondary occupation*		*Primary occupation*		*Secondary occupation*	
			N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Ararat marz	Hovtashen	608	552	90,8	0	0	56	9,2	0	0
	Kaghtsrashen	1556	1364	87,7	0	0	192	12,3	0	0
	Ajgepar	701	622	88,7	0	0	79	11,3	0	0
	Mkhchyan	2735	2571	94,0	0	0	164	6,0	0	0
	Dzorak	1255	1047	83,4	0	0	208	16,6	0	0
	Dashtavan	883	797	90,3	0	0	86	9,7	0	0
	Ararat	4401	3918	89,0	0	0	483	11,0	0	0
Syunik marz	Tolors	343	272	79,3	13	3,8	48	14,0	10	2,9
	Uts	353	298	84,4	22	6,2	24	6,8	9	2,5
	Akhlatyan	350	261	74,6	37	10,6	44	12,6	8	2,3
	Shaki	858	578	67,4	81	9,4	182	21,2	17	2,0
	Ishkhanasar	155	101	65,2	27	17,4	27	17,4	0	0
	Akner	674	585	86,8	32	4,7	32	4,7	25	3,7
	Verishen	1498	1188	79,3	110	7,3	170	11,3	30	2,0
Gegharkunik marz	Ljashen	2513	1150	45,8	0	0	1128	44,9	235	9,4
	Tsovazard	1313	850	64,7	70	5,3	256	19,5	137	10,4
	Gandzak	2963	1413	47,7	0	0	1067	36,0	483	16,3
	Karmir Gyugh	4471	1500	33,5	300	6,7	1857	41,5	814	18,2
	Noraduz	3695	1450	39,2	370	10,0	1298	35,1	577	15,6
	Chkalovka	283	170	60,1	0	0	63	22,3	50	17,7
	Sarukhan	5088	2614	51,4	0	0	1793	35,2	681	13,4

3.7.2. Ethnic employment

Most analyses of employment and the development of IGAs in rural areas ignore ethnic minorities. Our analysis of the ethnic structure of the population involved in farming activities shows that after Armenians, Yezidis and Russians has some involvement in farm employment (see Table 18).

Table 18 Ethnic Involvement in Farming Activities (active population)

Communities		*Total ethnic population in farming*		*Total Armenians in farming*		*Total Yezdis in farming*	*Total Russians in farming*	*Total Others in farming*
		(P.O.)[a]	*(S.O.)*[b]	*(P.O.)*[a]	*(S.O.)*[b]	*(P.O.)*[a]	*(P.O.)*[a]	*(P.O.)*[a]
		N	*N*	*%*	*%*	*%*	*%*	*%*
Ararat marz	Hovtashen	552	0	93,5	0	6,3	0,2	0
	Kaghtsrashen	1364	0	89,0	0	10,4	0,4	0,2
	Ajgepar	622	0	96,8	0	3,1	0	0
	Mkhchyan	2571	0	94,4	0	5,1	0,5	0
	Dzorak	1047	0	100	0	0	0	0
	Dashtavan	797	0	100	0	0	0	0
	Ararat	3918	0	91,9	0	8,1	0	0
Syunik marz	Tolors	272	13	100	100	0	0	0
	Uts	298	22	100	100	0	0	0
	Akhlatyan	261	37	100	100	0	0	0
	Shaki	578	81	100	100	0	0	0
	Ishkhanasar	101	27	100	100	0	0	0
	Akner	585	32	100	100	0	0	0
	Verishen	1188	110	100	100	0	0	0
Gegharkunik marz	Ljashen	1150	0	100	0	0	0	0
	Tsovazard	850	70	100	100	0	0	0
	Gandzak	1413	0	100	0	0	0	0
	Karmir Gyugh	1500	300	100	100	0	0	0
	Noraduz	1450	370	100	100	0	0	0
	Chkalovka	170	0	100	0	0	0	0
	Sarukhan	2614	0	100	0	0	0	0
Total sample		23301	1062	97,1	100	2,8	0,1	0

[a] - (P.O.)- Primary occupation [b] - (S.O.)- Secondary occupation

In all the surveyed communities, all ethnic minorities are involved in agricultural activities. There is no data available currently on ethnic minority participation in non-farming activities and migration.

3.8. Social institutions

Data on land and housing accessibility, communications and basic services are summarised in Table 19. Although even poor rural Armenians can generally feed themselves and heat their houses by a combination of brush, wood, or dung, cash poverty forces them to barter for foods they do not grow and for consumer items. Cash poverty sharply reduces access to medical services, good primary, secondary and higher education. Rural inhabitants also have to deal with deteriorating health services, and irregular or costly transportation when they need to come to the city for essential services.

Table 19 Assessment of the Local Infrastructure

Communities		Land and housing			Communication				Services			
		Land to buy/purchase	*Land to lease/rent*	*Supply of housing*	*Road network in area*	*Connection to railway*	*Access to Public transport*	*Access to telecomm*	*Access to power supply*	*Access to gas supply*	*Access to water supply*	*Sanitation*
Ararat marz	Hovtashen	3	2	2	3	3	2	3	2	3	3	3
	Kaghtsrashen	2	2	2	3	3	2	3	1	3	2	2
	Ajgepar	2	2	3	3	3	2	3	2	2	3	3
	Mkhchyan	2	2	2	3	2	1	3	1	2	2	2
	Dzorak	1	2	2	3	3	2	3	1	3	2	3
	Dashtavan	2	3	2	3	3	2	3	1	3	3	3
	Ararat	3	2	2	2	2	2	2	1	2	3	3
Syunik marz	Tolors	3	1	2	3	3	3	3	2	3	3	2
	Uts	3	1	2	2	3	3	3	2	3	3	3
	Akhlatyan	2	1	2	2	3	3	3	2	3	3	3
	Shaki	2	2	2	2	3	2	2	2	3	2	3
	Ishkhanasar	3	3	2	3	3	2	2	2	3	3	2
	Akner	3	2	2	2	3	2	3	3	3	2	2
	Verishen	3	3	2	3	3	2	2	2	3	2	2
Gegharkunik marz	Ljashen	2	2	2	2	2	3	2	2	2	3	2
	Tsovazard	3	3	2	3	3	3	2	2	2	3	2
	Gandzak	2	2	2	3	3	2	2	1	2	2	2
	Karmir Gyugh	2	2	2	3	3	2	3	2	2	2	2
	Noraduz	2	2	2	2	3	2	3	2	2	2	2
	Chkalovka	2	3	3	2	2	3	3	2	2	3	3
	Sarukhan	1	1	1	3	3	2	3	1	2	3	2

Key: 1=Good, 2=Medium, 3=Poor/bad

For the purposes of the survey, we evaluated land accessibility as being land which is traded (a land market) or available for rent. In 13 of the 21 communities surveyed (61.9 percent) of land accessibility is evaluated as good or average. The situation is relatively unfavourable in the communities of Syunik *marz*, where land market accessibility was evaluated as poor in 5 of the 7 communities, which is the result of a relatively low proportion of privatised land in the marz (see Table 6). This is also the main reason for a relatively vibrant land rental market in Syunik *marz* (non-privatised land is usually leased by local communities and *marz* government). The privatised land situation in Syunik is not typical of much of Armenia. Syunik had a high Azeri population resifent in the marz prior to the war between Armenia and Azerbaijan. When war broke-out the Azeris left without having actually applied, registered nor received any of the privatised land. Therefore, a lot of land has been left idle in this marz.

Housing availability was evaluated as good/ or average, with the exception of two communities (Aygepar and Chkalova). Among communications, only public transportation was evaluated as satisfactory. Railway connections and telecommunications accessibility and existing road networks have been evaluated as unsatisfactory correspondingly in 17, 14 and 13 communities out of the 21.

The surveyed communities access to basic services is slightly better. Access to power/ energy resources was only evaluated as poor in the Akner community. Sanitary and hygiene conditions were evaluated as poor in 9 out of the 21 communities, gas and water supply correspondingly in 11 and 12 communities.

3.9. Infrastructure

A minimum level of efficiently functioning infrastructure is necessary to enable non-farm activities in rural areas to develop and thrive. Transport accessibility plays an important role in the development of local industries as well as agriculture. Improved access in rural areas opens up potential new markets, improves the viability of rural service activities, and introduces higher levels of competition. The project team sought to evaluate both the quality of key public institutions and infrastructure and access to them in the surveyed communities. Infrastructure appears to be poorly developed at the community level for all the surveyed marzes (see Table 20). We found that agricultural information systems (e.g. extension services) were very poorly developed where they existed. In 19 of the 21 communities we studied, there is no agricultural information system (extension office, agri-marketing network) in existence, and in 16 communities no agricultural development projects are currently being implemented.

When considering social infrastructure, we found that post offices and healthcare centres are fairly accessible (available in 18 communities out of 21), but that veterinary services are very poorly developed (veterinary centres were only available in 2 communities). There is a secondary school in each community, with the exception of Ishkhanasar, where there is only one primary school, due to its small population (224 people).

In 13 of the surveyed communities there are 37 bread shops, in 7 communities 29 meat shops (20 such shops in Sarukhan alone), and in 15 communities 51 food/grocery shops. There are no such shops in the rest of the surveyed communities. In 15 of the surveyed communities there are 34 factories and small production facilities, and in 5 communities there are 26 trade markets for agricultural goods (20 in Mkhchyan). Sarukhan was the only surveyed

community with a bank branch office. It is also the surveyed community with the highest population.

There is clearly an underdevelopment of the infrastructure in all the surveyed communities. Our analyses of the infrastructure shows that some of the general services (such as post offices, schools) exist. However services related to health, technical services or information needs are not covered. A more developed agricultural output-processing sector would be beneficial by providing employment (thus potentially reducing work-seeking migration) and reduce the processing costs of agricultural products.

Table 20 Infrastructure development at community level (number)

Communities		*Information Network*		*Public Facilities*				*Education Access*		*Shops*			*Industry and Trade*		*Bank or subsidiary*
		Agricult. Develop. project	*Agricult. inform. system office*	*Post office*	*Village medical centre*	*Pharmacy*	*Veterinary centre*	*Primary school*	*Secondary school*	*Bakery*	*Butcher*	*Grocery*	*Factory, workshop*	*Market, trading centre for agr.prod.*	
Ararat marz	Hovtashen			1	1				1	1		1			
	Kaghtsrashen			1		1			1	1		1	2		
	Ajgepar			1	1				1	1		1	1		
	Mkhchyan			1	1	1	1		1			6	4	20	
	Dzorak			1	1	1			1	2	1	4	1		
	Dashtavan			1	1	0			1	2				1	
	Ararat			1	1	1			3	5	4		3	2	
Syunik marz	Tolors			1	1				1				2		
	Uts	2			1				1						
	Akhlatyan	4	1	1	1				1			2			
	Shaki	3		1	1				1			1	3		
	Ishkhanasar							1							
	Akner	1			1				1						
	Verishen	3	1	1	1				1			2	4		
Gegharkunik marz	Ljashen			1	1	1			2	4	1	5	2		
	Tsovazard			1	1	1			1	2		3	3		
	Gandzak			1	1				2	3	1	4			
	Karmir Gyugh			1	1				2	4	1	4	2		
	Noraduz			1	1	1	1		3	5	1	5	4	1	
	Chkalovka			1	1				1	1		2			
	Sarukhan			1		2			3	6	20	10	3	2	1
Total sample		**13**	**2**	**18**	**18**	**9**	**2**	**1**	**29**	**37**	**29**	**51**	**34**	**26**	**1**

4. Identifying patterns of RNFE diversification in Armenia: A community level analysis

4.1. Theoretical approaches to the diversification of non-farm activities

There are at least two principal components of most analyses of the process of non-farm diversification: income and activity. The income-driven non-farm diversification hypothesis assumes diversifiers are income-maximisers while the second, activity-driven non-farm diversification focuses on utility-maximisation as an underlying incentive for non-farm diversification. Thus, two types of non-farm diversification may be defined: the first, *income-driven* diversification, coincides with a period of capital accumulation (including financial, social and information capital) while the second type, *activity-driven* diversification often occurs later, when the afore-mentioned capital accumulation has already taken place. However, this does not have to be regarded as being sequential, as the type of non-farm diversification may vary with different households. Therefore, although income maximisation is often the main reason for diversification, other stimuli for non-farm diversification cannot be dismissed.

To identify which of the two non-farm diversification drivers are most prevalent at the community level, which are the subject of this present study, two ratios might be proposed. First, income-driven diversification may be quantified by the ratio:

$$DII = \frac{\sum \text{NAI}}{\sum \text{TI}} \cdot 100 \quad [1]$$

where

DII = Diversification Index (income-driven)
NAI = Non-Agricultural Income
TI = Total Income

Here a value of 100 would imply that income is wholly diversified outside agriculture (i.e. agricultural income is zero), whilst a zero value for DII would indicate only agricultural income.

A diversification index that would take into account the *activity-driven* diversification is proposed as follows:

$$DIA = \frac{\sum AP_{nf}}{\sum AP} \cdot 100 \quad [2]$$

where DIA= Diversification Index (Activity-driven)

AP_{nf} = active population involved in non-farming activities
AP = active population

A value of 100 would indicate diversification fully outside of agriculture, whilst a value of zero would indicate an exclusively agrarian community.

The weakness of the above ratios is that they do not consider 'agriculture' itself as a possible second activity for diversification. Therefore, a more detailed approach to diversification patterns would consider pure Non-Farming Rural Diversification (DI) and Hybrid Non-Farm Rural Diversification (DIH). The former considers only those individuals having a secondary non-farming activity while the latter accounts for both farming and non-farming activities people choose to diversify their activities (possible also their income). These two indices are defined below as follows[13].

$$DI = \frac{\sum AP_{snf}}{\sum AP} \cdot 100 \qquad [3]$$

where

DI = Pure Diversification Index (DI)
AP_{snf} = Total active persons having a Secondary activity in Non-Farming
AP = Total active population

The Hybrid Diversification Index (HDI) is defined as

$$HDI = \frac{\sum AP_{(sf+snf)}}{\sum AP} \cdot 100 \qquad [4]$$

where

$AP_{(psf+snf)}$ = Active Population having secondary occupation in farming or non-farming
AP = Total active population

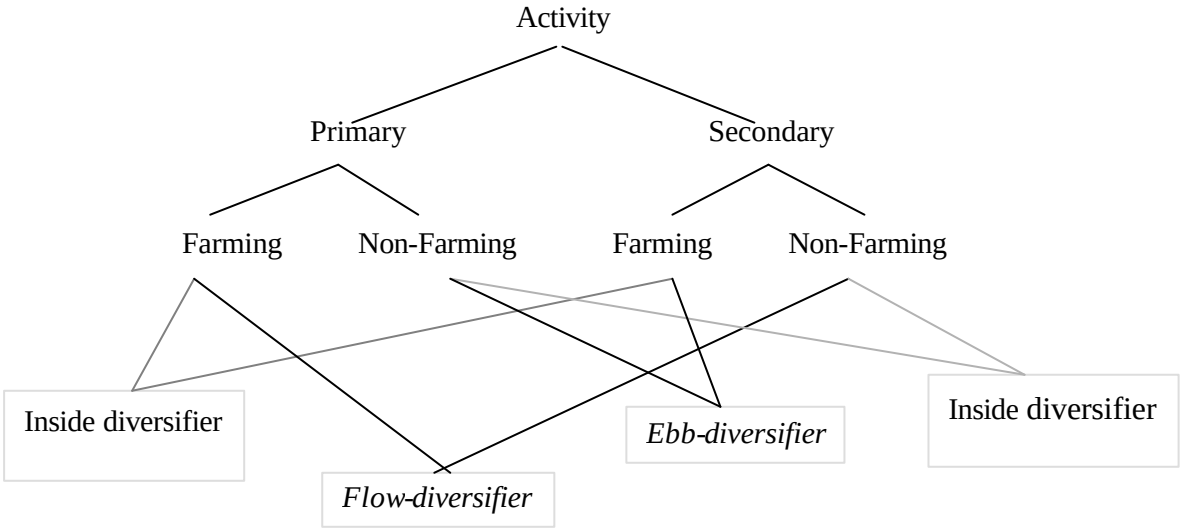
A value of 100 would indicate diversification (including agriculture among possible options in the case of HDI) or not (in the case of DI) whereas a zero value would denote a non-diversified situation (either solely in agriculture or in non-agricultural sectors).

Furthermore, considering the *type of activities* in which the active population are involved, three different diversification patterns may occur: (i) *inside-*; (ii) *ebb-* (or

[13] The database we utilised comprised two spreadsheets: one with employment (in agriculture, public sector, non-agriculture, etc) and one with type of activities (as handicrafts, trade/commerce, services etc). Thus the income ratio included those having a source of income (from employment) while activity ratio included those into non-farming activities (as they were recorded on the spreadsheet). This differentiation (income and activity) was resulted from the way in which the data was collected for the database.

distress-push) and (iii) *flow* - (or demand-pull)[14] diversifiers. *Inside-diversifiers* are those choosing a second job in the same domain (either agricultural or non-agricultural sector) as their first activity (job). This would be most common in the case of low capital endowment (financial or human), or among those rural inhabitants who are not prepared to assume the risks of entering into a different activity domain. *Ebb-diversifiers* are those whose primary activity (job) is in the non-farm domain and choose a second activity (job) in the agricultural sector. A predominance of *ebb-diversifiers* would indicate a situation where either non-farm income does not cover subsistence needs, forcing people back into agriculture, or where there are distorted agricultural prices (either high due to low levels of agricultural productivity and efficiency, or low due to state policies aimed to protect low income consumers in urban areas but with a concomitant de-capitalising impact in farming communities). Finally, *flow-diversifiers* are those with a primary activity (job) in agriculture and a second activity in the non-farm economy. These are the demand-driven, risk-taking diversifiers, usually having a better financial and/or human capital endowment, hence better equipped to take advantage of market opportunities, and thus able to shift out of agriculture. It may also be the case that these flow-diversifiers cannot find opportunities for diversification within agriculture and therefore try to re-orient their activities (and/or sources of income) to non-agricultural activities. Figure 3 summarises the possible diversification patterns presented above.

Figure 3. Diversification patterns



Source: Own Survey, 2001

Table 21 summarises the distribution of the Diversification Index (DI) at the level of the sampled Armenian communities. Clearly, the majority of the population is clustered in the low diversification region, which suggests the dominance of a unique, farm-based pattern of activities.

[14] *Ebb* and *flow* diversifier notions are more illustrative in the context of transition economies, emphasising the dynamic character of diversification in an unstable economic environment. This is to say that diversification does not have a permanent character.

Table 21 Types of non-farm diversifiers according to the distribution of the Diversification Index (sampled communes)

DI *Pure NF diversification*				**DIH** *Hybrid diversification (into both F and NF)*			
		N (number of active persons)	*%*			*N (number of active persons)*	*%*
Non-diversifiers *(P in F only)*	DI = 0	23,301	63.5	Non-diversifiers *(P in F only)*	DIH = 0	23,301	63.5
Non-diversifiers *(P in NF only)*		9,257	25.2	Non-diversifiers *(P in NF)*		9,257	25.2
F Diversifiers *(S in F)*		1,062	2.9				
Pure NF Diversifiers *(S in NF)*		3,076	8.4	Hybrid diversifiers *(S into both F and NF)*		4,138	11.3
of which:	*0<DI<20*	1,441	3.9	*of which:*	*0<DIH<20*	2,077	5.7
	21<DI<40	1,635	4.5		*21<DIH<40*	2,061	5.6
	41<DI<60	0	0		*41<DIH< 60*	0	0
	61<DI<80	0	0		*61<DIH<80*	0	0
	81 DI < 99	0	0		*81<DIH< 99*	0	0
Fully non-farming diversifiers *(P and S in NF)*	*DI = 100*	0	0	Fully non-farming diversifiers *(P and S in NF)*	*DIH = 100*	0	0
Total sample		**36,696**	**100**	**Total sample**		**36,696**	**100**

Legend: P is *primary activity*; S, *secondary activity*; F is *farming activity*, NF is *non-farming activity*.

Source: Authors Estimates, Survey 2001

Table 21 summarises the distribution of the Diversification Index (DI) at the level of the sampled Armenian communities. Clearly the majority of the population is clustered in the low diversification region, which suggests the dominance of a unique, farm based pattern of activities. The results show that 63.5 percent of the population are primarily employed in farming, 25% in the purely non-farm group and the remaining 11.3% in the low diversification group (hybrid diversifiers). There appears to be a relatively low level of non-farm diversification in Armenia. Davis and Cristoiu (2002) found that the level of non-farm diversification in Romania was higher with around 46% of the population primarily employed in agriculture and 37% in non-farm employment with 17% in the low diversification group (hybrid diversifiers).

Table 22 includes the structure of diversifiers at the level of the surveyed communes. Interestingly, in two of the sampled marzes the active population involved (as a secondary occupation) in non-farming activities. Our analysis of the data indicates that in these two marzes, Syunik and Gegharkunik, the non-farm rural diversifiers are mainly male. Women tend to find secondary non-farm activities in various public sector (6.9%) professions (teaching, medical care etc.). More women are self-employed in agriculture (67%) than men (62%) (see Table 15). This would indicate a higher opportunity cost of male labour outside farming and probably better offers of

work, or higher returns to labour for men than women. Women mostly cultivate homestead gardens. Often when their husbands or sons have migrated, women work on the privatized land closest to their villages, or cultivate irrigated parts of the land. Privatized land is usually cultivated by men. In cases where there are no men in the family (migrated, sick, or dead), women seek the assistance of male relatives to cultivate the land. However, even when the relatives' assistance is available, the farthest plots usually remain abandoned. Very often these families do well materially, when the emigrated breadwinners have jobs in Russia and send remittances home to support their families. Anecdotal eveidence from northern Gegharkounik and Lori suggests that the incidence of single-parent households and women farmers is very high. The policy implications of these findings will be discussed later.

Table 22 Diversification pattern at the level of sampled communes

	Communa	***Non - Diversifiers***				***Diversifiers***			
		Primary in F		*Primary in NF*		*Secondary activity in F and NF*		*Secondary activity in NF*	
		N (Number of persons)	*%*	*N (Number of persons)*	*%*	*N (Number of persons)*	*%*	*N (Number of persons)*	*%*
Ararat Marz	Hovtashen	552	2.4	0	-	56	0.6	0	-
	Kaghtsrashen	1,364	5.9	0	-	192	2.1	0	-
	Ajgepar	622	2.7	0	-	79	0.9	0	-
	Mkhchyan	2,571	11.0	0	-	164	1.8	0	-
	Dzorak	1,047	4.5	0	-	208	2.2	0	-
	Dashtavan	797	3.4	0	-	86	0.9	0	-
	Ararat	3,918	16.8	0	-	483	5.2	0	-
Syunik Marz	Tolors	272	1.2	13	1.2	48	0.5	10	0.3
	Uts	298	1.3	22	2.1	24	0.3	9	0.3
	Akhlatyan	261	1.1	37	3.5	44	0.5	8	0.3
	Shaki	578	2.5	81	7.6	182	2.0	17	0.6
	Ishkhanasar	101	0.4	27	2.5	27	0.3	0	-
	Akner	585	2.5	32	3.0	32	0.3	25	0.8
Gegharkunik Marz	Verishen	1,188	5.1	110	10.4	170	1.8	30	1.0
	Ljashen	1,150	4.9	0	-	1,128	12.2	235	7.6
	Tsovazard	850	3.6	70	6.6	256	2.8	137	4.5
	Gandzak	1,413	6.1	0	-	1,067	11.5	483	15.7
	Karmir Gyugh	1,500	6.4	300	28.2	1,857	20.1	814	26.5
	Noraduz	1,450	6.2	370	34.8	1,298	14.0	577	18.8
	Chkalovka	170	0.7	0	-	63	0.7	50	1.6
	Sarukhan	2,614	11.2	0	-	1,793	19.4	681	22.1
	Total	23,301		1,062		9,257		3,076	

F = Farming; NF = Non - Farming

Karmir Gyugh (Gegharkunik) is the only surveyed community with a higher share of those diversifying outside of agriculture than those who are solely involved in farming. This may to some extent be explained by the limited opportunities to diversify within agriculture available to the population. This is also a possible case of almost generalised distress-push non-farm diversification. If data on the level of

income were available, probably it would have indicated the insufficient (low) level of agricultural income (possibly also profit) pushing labour outside agriculture or preventing it from returning to farming.

Table 23 Patterns of diversification at community level

Communities	*Inside 1* %	*Flow* %	*Inside 2* %	*Ebb* %	*Flow-ebb*
	Ararat Marz				
Hovtashen	45,4	45,4	4,6	4,6	41
Kaghtsrashen	43,8	43,8	6,2	6,2	38
Ajgepar	44,4	44,4	5,6	5,6	39
Mkhchyan	47,0	47,0	3,0	3,0	44
Dzorak	41,7	41,7	8,3	8,3	33
Dashtavan	45,1	45,1	4,9	4,9	40
Ararat	44,5	44,5	5,5	5,5	39
Ararat Marz (average)					*39*
	Syunik Marz				
Tolors	41,5	41,1	8,5	8,9	32
Uts	45,3	43,5	4,7	6,5	37
Akhlatyan	42,6	38,4	7,4	11,6	27
Shaki	38,4	34,7	11,6	15,3	19
Ishkhanasar	41,3	32,6	8,7	17,4	15
Akner	45,8	45,3	4,2	4,7	41
Verishen	43,3	40,7	6,7	9,3	31
Syunik Marz (average)					*29*
	Gegharkunik Marz				
Ljashen	22,9	27,6	27,1	22,4	5
Tsovazard	35,0	37,6	15,0	12,4	25
Gandzak	23,8	32,0	26,2	18,0	14
Karmir Gyugh	20,1	25,9	29,9	24,1	2
Noraduz	24,6	27,4	25,4	22,6	5
Chkalovka	30,0	38,9	20,0	11,1	28
Sarukhan	25,7	32,4	24,3	17,6	15
Gegharkunik Marz (average)					*13*

Inside 1: Active population having a primary activity in farming and a second activity in farming
Inside 2: Active population having a primary activity in non-farming and a second activity in non-farm.
Flow: Active population having a primary activity in farming and a second activity in non-farming
Ebb: Active population having a primary activity in non- farming and a second activity in farming

Table 23 includes the diversification patterns observed at the level of the sampled Armenian communities. Inside-diversifiers, i.e. those who select their secondary activity from the sphere of their prime activity, diversify within their primary branch mainly because of the shortage of capital (mainly financial) and/or their reluctance to take risks. In all the surveyed communities, there are more flow-diversifiers (main activity farming, secondary activity non-farm), than ebb-diversifiers (main activity non-farm, secondary activity farming). The difference is larger in Ararat *marz*, since the population has a better financial situation and can afford to diversify for demand-pull reasons.

Ebb- and flow diversifiers are those seeking diversification opportunities outside their primary area of expertise. Inside diversifiers are those looking for diversification

opportunities inside their main area of expertise (skill set or knowledge). The share of ebb-diversifiers is larger in Gegharkunik *marz*, which is due to Lake Sevan. The lake provides for reasonably well-developed tourism/ day-tripper services and facilities, as well as a vibrant fishing industry. Nevertheless, most respondents from the region did not feel that their income from these activities was sufficient for most needs thus; the population is also involved in farming to ensure enough food for their families.

Considering the regional differences this may be a reasonable representation of the general situation in rural Armenia. The strikingly low level of non-farm diversification also supports the hypothesis of under-utilised local resources and highlights a wide range of needs existing at community/village level, much of which could be covered through the development of non-farming activities.

4.2. Summary: problems and prospects for development

One of the key problems of rural development in Armenia is how best to utilise the available though limited land available for agriculture effectively and efficiently and in doing so, to provide the rural population with jobs and sustainable rural livelihoods. The agricultural sector will remain central to the development of viable non-farm rural employment opportunities and sustainable livelihood activities.

Since 1995 the share of agriculture in GDP has declined from 34.8% to 22.5%, which is the result of a more rapid growth of industry, construction, transport and communication sectors of the economy. Armenia created good rural infrastructure during communism, which has become dilapidated during the transition period. The main branches of the large rural industrial enterprises e.g. fruit and vegetable processing now stands idle.

Due to the 'collectivization' and 'industrialization' of Armenia's rural areas, within only 40 years (1939-1979) the proportion of the population employed in the agricultural sector and rural artisans in the Soviet Armenia declined from 64% to 9.7%. The proportion of the Armenian population employed in the agriculture sector (including forestry and supplementary sectors of economy) during 1970-1987 declined from 25% to 19%. Thus, it could be argued that prior to the transition to a market economy (1990) half of the working rural population of Armenia was engaged in non-agricultural activities. The soviet policy aimed to create full employment for both the rural and urban populations, and in this way to co-ordinate/regulate Armenia's urban migration.

The privatisation of agricultural land, livestock, poultry and machinery by the rural population resulted in the creation of thousands of small family peasant farms. Currently, there are 332,6 thousand agricultural and 25 thousand supplementary farms as well as 60 thousand gardening establishments and others. These new subsistence farms are small (average a peasant farm size is between 1.3-1.5 ha of the privatised land). The NSS (2001) estimates that these subsistence farms sell approximately 40-45% of their production. Given the current levels of production, these farms cannot secure sustainable livelihoods. Thus a key issue for rural development is how to address this problem through the development of non-farm employment.

On the basis of the community level data analysed above, we can propose at least three broad employment and non-farm rural development policies:

- The development of the agricultural sector through the enlargement of peasant farms (i.e. land consolidation programmes or through the future development of a vibrant land market);

- Through the restoration of the rural farm up and downstream industries serving agriculture and the non-farm economy (processing, rural finance, produce distribution, transportation, marketing, provision of veterinary, seed-breeding, cattle-breeding services); and

- Through the development of alternative non-agricultural activities such as industrial goods production, light manufacturing (textiles production), restaurants, tourism, retail trade and the service sector.

For agricultural production to develop along more commercial lines will also require the development of agri-processing, distribution, and marketing enterprises. Both upstream and downstream direct investment in the agricultural sector will be necessary if broader multiplier effects are to be achieved. For example, through our focus group interviews we observed that recently in Ararat marz as a result of the increased purchase of locally produced grapes by a number of companies (producing wine, cognac, and other alcoholic beverages), the destruction of vineyards and vine gardens, which was widespread four-five years ago, has ceased. Local grape producers have responded to the demand of local companies.

In our investigations for this report we have come across other similar examples. For example, the same tendency has occurred in the case of vegetable and soft-fruit (especially apricot) production. Over the last 5 years, there has been increased production of processed/canned food, including: tomato paste, canned fruit, and vegetables and fruit juice. The same refers to an increase in tobacco processing, which has grown in response to demand from a large local tobacco producer-- *"Grand Tobacco*". Similarly, dairy production has increased due to milk supply agreements between the *"Ashtarak Kat"* dairy enterprise and farmers.

The development of the agricultural sector will to some extent depend on the availability of a reasonably skilled labour force. During the last ten years, the share of the population employed in the agricultural sector has increased from 17.7% (1990) to 43.3% (1999), or 2.4 times. However, NSS surveys show that only 36% of those who are employed in this sector are employed throughout the whole year, 24% of them are employed up to 6 months, while 40% are employed for 7-8 months. Thus, it could be argued that agriculture as a seasonal production sector cannot guarantee a sustainable income or regular employment for those engaged in it all year. This makes those households dependent on agriculture as their main source of income insecure and at risk of deeper poverty.

One of the GoAs key rural development priorities of promoting employment needs to focus on investment in non-agricultural spheres of the rural economy. A concerted programme of investment (in public infrastructure: roads, railways, telecommunications, information technology) will contribute to the overall development of the rural areas, create jobs, raise skill levels, reduce emigration from

rural areas and raise the living standards of the rural population. Greenfield development zones could also be established.

A related issue concerns taxation and utility service cost recovery schemes to improve the level of investment in existing infrastructure from income generated from the consumer. As part of the urgent development (in some communities reintroduction) and improvement of utility services to rural communities the GoA will need to consider rationalising existing utility service tariff structures and make tax collection more effective. The issue of introducing tariffs for village-level services (where they have been provided) such as water distribution, water for irrigation, medical assistance services, and other social services is of great importance. The provision of communal, transport and other services, which were formerly provided through public funds, has almost completely disappeared from rural areas.

The next issue concerns the development of upstream and downstream firms which support the agricultural sector such as animal breeding - veterinary, plant protection, seeds, fertilizers production, and renovation of machinery for agricultural purposes.

In some rural communities RNF employment activities such as tourism (including eco-tourism) could be effectively developed, since it is mainly in the rural and adjacent areas, where Armenia's main historical-cultural monuments, recreational resources, mineral springs, forestry, outdoor sports, health resorts etc., are located. On the face of it, there should be some potential for the development of tourism in Armenia.

The development of the agri-food system may be viewed as a potential area for FDI in the development of non-agricultural employment. Low-cost fruits, tobacco, alcoholic beverages, cheap labour, limited "red-tape" in establishing an SME, tax-free profit repatriation from investment (including foreign investment), and other factors may help make Armenia a more attractive place to invest, especially in the agri-food sector where there is still scope for growth. However, some of the firms we interviewed noted that the tax regime and level of taxation was excessive for existing micro and small-medium sized firms. In addition, on a cautious note, to date the potential for FDI from the Armenian diaspora in rural activities appears to have been limited.

As the results of our survey and the NSS research conducted over recent years show, that in addition to hidden employment (informal sector) and hidden unemployment (agricultural sector) present throughout the economy, Armenia also has seasonal unemployment in the agricultural sector. The rural population faces a lower risk of poverty, but there is a tendency towards greater polarisation, depending on altitude above sea level. The proportion of privatised agricultural land in the total available territory is low (35.7 percent), which is the result of a low level of privatisation of pastures, constituting 50 percent of Armenia's total agricultural area.

The number of livestock per household does not depend as much on areas under forage crops, as on population density, which shows that for the majority of farms livestock production is not a commercially viable activity. The relatively high level of barter trade in Syunik *marz* is due to its distance from large cities.

On average, men between the ages of 30-40 years migrate for seasonal employment, usually during peak farming periods, leaving the entire workload to women and

children. The destination country for most seasonal workers is Russia, due to previous ties, knowledge of the Russian language and an absence of visa requirements. Generally more women are self-employed or hired as employees in the agricultural sector, while in non-farm activities men are prevalent.

Access to land for sale (and to a lesser extent lease) is significantly lower in Syunik *marz* compared to other *marzes*, because of the lower share of privatised land. Generally, in the entire surveyed rural communities infrastructure, particularly road, rail, information technology systems and telecommunications are poorly developed.

In order to attract investment for the development of rural non-farm activities and employment in rural areas, it may be necessary to:

- To take measures that promote land consolidation, a key element of which being the stimulation of the land market. In order to mitigate the effects of the low level of affordability on the side of the rural population, payments for the purchased land could be arranged in 3-5 year instalments. Land as a means of collateral to secure loans for investment in both on and off-farm activities are vital. The lack of an active land market inhibits this process.
- To encourage large processing factories to open branches in rural areas. This would enable the development of extensive marketing, procurement and distribution chains through firms from the core to the peripheral areas of Armenia. Although such a development would be useful, to date there is limited evidence of this process and thus we would anticipate more dynamism from new SME entries into the processing sector rather than former state entities or existing large processing firms decentralising their activities in the short-term.
- To improve community infrastructure, particularly roads, railways, information technology systems and telecommunications.
- To promote the establishment of farmers' associations, co-operatives and credit clubs; to conduct consultations in farms regarding marketing, purchase of various services, using extension services, receiving credits and other matters relating to the development of co-operatives or farming/producer associations.

5. Obstacles and opportunities for the development of non-farm activities

This section of the report focuses on social aspects of non-farm rural livelihood diversification and employment. This is based on the results of an extensive participatory rural appraisal (PRA) and focus group exercise conducted during October – November 2001 in the following communities: in Gegharkunik: Noratus, Lichk, Khachaghbyur villages; and in Ararat marz: Urtsadzor, Mkhchyan, Voskepat villages of Ararat marz. There were 2 focus groups conducted in each village (total number – 12, see Appendix 1 and Methods and Approach Report for outline of methodology); of these 6 only comprised entrepreneurs, 2 comprised farmers, 2 included craftsmen, and 3 included the rural poor.

The selection of the villages was conditioned by the following factors: mountainous-flat, stock-raising – agricultural, near-far from the capital, existence of alternative economic activities. In Gegharkunik, Noratus is known for it's fishing activity which is as important as agriculture, Khachaghbyur has a mixed village population (refugees and locals), and Lichq is one of the poorest villages in the Gegharkunik marz. There are many people who have accessed agricultural credit in Voskepat village of Ararat marz, and there are also a lot of refugees living there. Mkhchyan village has a long tradition of hot-house agriculture, especially flowers and tomato, and Urtsadzor is a mountainous village in Ararat marz, which is situated far from main roads and where tobacco growing has again become an important village activity.

Agriculture in the surveyed villages is the main source of household income. The new or emergent "class" of rural non-farm entrepreneurs is small and their activities generally account only for a small share of family income.

In Armenia, conventionally entrepreneurship refers to various income generating activities that go beyond farming and cattle-raising. Such an approach enables us to divide these people and activities into several groups:

- Those who started some non-farm production,
- Those engaged in commerce,
- Those organizing and delivering services,
- Alternative types of economic activities such as fishing in Gegharkunik and bee-keeping
- Craftsmen and handicrafts production.

Salaried employment may be considered to be another type of income generating activity together with off own-farm work, which may be classified as follows:

- Budgetary employment in state institutions – (teaching, medical service, etc.)
- Employment with private entrepreneurs
- Seasonal work/ spring sowing, autumn harvest
- Payment on a daily basis /occasional jobs

With some minor exceptions, none of the types of activities surveyed in the aforementioned marzes can compete with farming in terms of profitability: on-farm employment still provides the largest share of household income, while alternative

activities currently mainly supplement household budgets. Entrepreneurs or salaried employees are usually separate members of a household that provides supplementary income, or are engaged both in farming and to some extent non-farm activities, which will be discussed below.

It should be noted that both small and large production and service delivery firms observed during the study were largely dependent on local resources and raw materials. Agriculture is the major activity in the surveyed marzes, yet it is also associated with a number of difficulties explained by the use and organization of available bio-resources.

Major resource - existing land stock in the surveyed regions – varying in size and used with different efficiency both in terms of volume (sizeable amount of agricultural lands is not cultivated at all) and quality (cultivation of the agricultural land does not correspond to agro-technical standards). There is lack of regular irrigation; no deep tillage as required; fertilisers are either not applied or N fertilisers are used; seeds renewal is not frequent; and there is no crop rotation applied. The main reasons for this are:

- Dilapidation of the irrigation system,
- Lack of financial resources,
- Lack of technical equipment,
- High cost of diesel fuel, seeds and fertilizers for the Armenian village,
- Land partitioning and/or distance from the village, difficult access or completely inaccessibility,
- Quality of land /mountainous, landslides, sandy.

These reasons account for the decline of land fertility which is followed by the soil degradation (arable land is turned into hay meadows, and hay meadows become pastures; land erosion is underway). As a result, poverty levels, emigration and social degradation have risen. Communities artificially became "older." In Gegharkunik people tend to give up farming. The majority of the population, particularly the poorest are more reliant on their homestead garden. If in Ararat marz fruit-vegetable cultures may have commercial value, then vegetables (potato, cabbage, carrot) grown in the homestead gardens in mountainous Gegharkunik (2000 m. above the sea level) are just enough to satisfy the needs of the family.

Cattle raising is viewed as a more effective direction for the rural economy in Gegharkunik. Existing hay meadows and pastures would be sufficient for the development of cattle-breeding, if communities had resources to buy fuel and a minimum of technical equipment needed for delivering the hay to the village or to organize the seasonal pasture in the highlands.

In Gegharkunik cattle breeding has real opportunities for development and its main obstacle is the absence of a consumer market. The majority of the Armenian population is poor, and hence unable to become potential consumers for their products due to the low purchasing power. On the other hand, the existing market is flooded with goods imported from the CIS and the EU. The participants in our focus groups maintained that the government is not interested in promoting local cattle breeding.

Cattle breeding is also very important in the Ararat marz. Among the villages we surveyed, cattle breeding is relatively developed in Urtsadzor, and the tradition to take the cattle to hay meadows continues there, which helps to "save" arable land on the one hand, and provides forage for the cattle, on the other. It is possible that the tradition is also continued in Urtsadzor because of the absence of pasture land.

Irrigation is increasingly becoming a problem in the villages. Irrigation problems have an adverse impact on the efficiency and effectiveness of agriculture deepening poverty and social degradation. This was especially noticeable during two consecutive years of drought, especially in the region of Gegharkunik.

Fish are a natural resource available in the Sevan basin, although there are only a few villages occupied with fishing. As a way of earning a living, fishing follows agriculture and stock raising, at the same time the level of migration for work is very high in those fishing villages. Fishing or fish selling is not sufficient to cover family needs, and as a rule this activity supplements household budgets. Nevertheless, the living standards in the fishing villages are relatively high as compared to agricultural communities.

Surveyed villages show that agriculture is very diverse in Ararat marz. Traditionally the marz specialized in vegetables, grapes and apricots. Nowadays, due to the absence of demand wheat is grown in a significant part of previous orchards or homestead gardens. In Urtsadzor village people recently returned to the cultivation of tobacco. Traditionally in Ararat marz cultivation was based mainly on hot-houses and usually beginning from February supplied local markets with cucumber and tomatoes. In some villages even flowers were grown in hot-houses. Today hot-houses are facing several problems, mainly financial: it is too expensive to maintain the necessary temperature using gas or electricity.

A lack of economic initiative is observed in both marzes. In general people believe that any economic initiative is only possible where an individual has a good network of contacts, access to finance or high social status.

Constraints occur where local self-governing institutions/ municipal authorities are affected by financial problems (where land and other taxes are not collected, state funds are not transferred etc) is additionally complicated by the presence of poverty in communities and a low level of social satisfaction. Compared to Gegharkunik the phenomenon is less evident among the rural population of wealthier Ararat. Traditionally, Ararat marz has a higher level of economic activity: it is close to the main market (Yerevan), roads are in a better condition, and the population is more aware about new initiatives going on in the country. Based on marzes people have also different material opportunities, and so – different perceptions about wealth and poverty. Although in both marzes people generally judge the village population dividing them into "rich," "wealthy," "average," "poor," "poorest" categories given to each of those groups the following percentages in their villages- 5-6, 10-15, 50-60, 20-30 and 10, but their perceptions on the composition of each of these groups is different. For example, currently in Gegharkunik those who can maintain their "production" and feed themselves even with access to loans are considered to be "middle-class" and the poor are those who are seeking daily bread. In Ararat the "middle class" are those who can maintain agricultural employment/activity without incurring debts.

In both marzes, the overwhelming majority of the population hope that something will happen: people complain that laws do not function, but the laws they think of are laws of the past. The expectation is that "the state should do something," "the state should supply," "the state should control," "the state should organize." There were no attempts made to explain the new economic policy and present new legal framework. Indeed, farmers are unaware either of their rights or legal and practical opportunities. Even in the marzes only heads of village administration, or their relatives are informed about economic programmes implemented in the region. In the majority of cases, these people are unaware too. For instance, in Gegharkunik marz mayors of Gavar and Martuni are informed of the current or future projects implemented there. The villages of Chambarak and Vardenis which are rather poor and consist of a significant number of refugees, are isolated and un-represented in the administrative structures.

This problem is urgent in Ararat marz too: out of 93 villages 50 are populated exclusively or largely by refugees. These refugees have an urban background and have difficulties adjusting to farming. The majority of them prefer paid employment rather than farm work.

5.1. Types of rural non-farm economic activity

Fishing and ancilliary activities are common alternatives to farm work in Geharkounik. It is well known that fishing is the exclusive occupation of several villages of Sevan basin (if we do not consider fishing for fun), particularly Tsovagyugh village (Sevan region), Noratus village (Gavar region), and Tsovak (Vardenis region). The population of Artsvakar community of Gavar as well as Kachaghbyur, Ayrikyan, Berdkunq, Lchap, Karmir, Tsovinar and other villages do fishing too. However, even in those villages where fishing was a dominant type of activity, this was combined with agriculture including the village in the whole and separate families. This means that other members of fisherman's family (parents, wife, children) and often fishermen themselves cultivate land or breed cattle.

Conventionally the "fishing business" may be divided into:

a) organization of fishery
b) fishing itself
c) fish trade
d) ancilliary businesses: fish processing /cleaning, smoking, etc/.

Processing of fish means first and foremost fish smoking. In Tsovak, fish is processed when there is too much catch to be sold quickly. In this case, fish is smoked and kept to be exchanged later. More often, the catch is given to refugees from the neighboring Torfavan, who process and smoke the fish, and sell it. Fish smoking is a dirty and costly process in terms of effort. The whole family usually works on it including 8-9 aged children. The average family can earn up to 30,000 drams during the season (Noratus). Women generally do most of the difficult and dirty work: cleaning, smoking, etc.

Over recent years fish breeding has became a popular complement to fishing. Of the fish breeding farms the team saw in Tsovak, one was a pond (stagnant water), two

other farms were built on the river Gelly. River-farms breed trout. These farms as a rule belong to well-knows local people with significant social capital authority in the community. There are many people who would engage in fish-breeding business if they could get the relevant financial and material assistance.

The fishing industry is a non-farm alternative and very important source of income for the rural population. However, for most fishing families agriculture still provides an important source of income for the family. Fishing is the most important income generating activity for villagers. Our focus groups in Noratus emphasised the central importance of fishin totheir livelihoods. If there was no fish, there would be no other types of employment. It would also weaken agriculture, as the income from fishing is invested in agriculture. This money is used for purchasing seeds, forage, homestead garden and privatized land cultivation.

Stock breeding ranks second in terms of importance. Low tax rates (1000 drams are paid monthly for pasturing one head of cattle) contribute to cattle breeding.

Bee keeping is another type of non-farm business activity in the surveyed marzes. Usually 4-5 families in the village keep bees. Sometimes, this number might reach 10. Bee keeprs think it has become a difficult business both in terms of effort and the low level of demand. Honey doesn't sell well, and beekeepers have 2-3 year storage of honey intended for sale. In Gegharkunik, a major problem for beekeepers is how to take bee-hives to warmer places, such as the Ararat valley. On the contrary, people in the Ararat valley prefer taking bee-hives to shadowy and colder places when there are lots of flowers. Then it is an issue of how to move bee-hives several times during the season. Beekeeping fully satisfies the demand of the local market. However, beekeeping cannot develop without having an adequate wider (regional rather than local) market.

Other types of economic activity for the local population heavily depend on the opportunities offered by the local natural resource base. These opportunities are prioritized differently in the surveyed villages. Below is a list of the most frequently observed non-farm enterprises in the sampled villages:

- Shops or kiosks /they mostly trade food, there is less need for garments and household goods. A lot of shops in Ararat sell agricultural products: chemicals, fertilizers, tools etc.
- Gasoline and diesel stations
- Bakery
- Mill
- Cheese dairy
- Car repair stations and services
- Restaurants
- Barber's
- Craftsmen - constructors - stone carver, painter, stone carver, jewller and so on
- Household work - tailor, carpet-makers, etc.
- Drivers
- Photographers

In Noratus, non-farm activities include the following:

- wood-working,
- cheese dairy,
- hotel-restaurant,
- jeweler, retail shop,
- bakery, repair works,
- tailor, barber,
- spirits production

Some of the jobs in these firms or activities are seasonal and unregistered (thus, untaxed). People work at home and do not want to have any business with tax inspectors. These are: wood-working workshops, jewellers and other craftsmen. Participants at our Noratus village focus group maintained that everything in their micro-enterprise operates well so long as they remain unnoticed by the tax authorities. Once they expand their business they will be harassed by authorities (implicitly and/ or explicitely). In the village there is a spirits production facility and fish processing enterprise, which are found in more favourable conditions. The production of spirits is the most profitable business in the village undertaken by people who have significant social capital and a strong network of contacts in the region. In Noratus, alcohol is produced by marzpet's (highest appointed official of the region) brother. The situation is even worse in other villages of Gegharkunik, where trade is the main type of non-farm employment.

The same phenomenon is observed in the villages of Ararat marz. These people dream of working as salaried employees becase they would avoid having any contact with authorities. Our focus group discussions about potential non-farm activities among both male and female members of the village population found that small businesses do not see any long prospects and consider their current occupation to be temporary, "crisis" distress-pushed non-farm ativity. Tax payments from these non-farm firms into the budget vary between 20-60% (a larger percentage is received from gasoline stations, mills and bakeries). Salaried employment is mainly administrative work in the community, municipal office or in state owned enterprises. People admit that "*employees working for private proprietor are unprotected" and "that the private sector does not sign contracts with employees*."

The situation is better in Ararat marz. There are many small manufacturing firms operating in the region such as furniture making (doors, windows, chairs). Production is organized in workshops - Soviet leftovers - recently privatised by the former managers. For comparison and analytical purposes below we present a list of non-farm enterprises and individual activities that were observed in Mkhchyan village of Ararat marz:

- Four dentists, who work independently
- School /some teachers train children privately/
- Music school /some teachers give private classes for a fee, while male musicians play at weddings, parties and funerals
- Dancing ansemble /private classes/
- A private bus that rides students to Yerevan
- Vans /four minibuses; drivers deliver agricultural products to the market/
- Repair services
- Flour shop /sells other goods in retail/

- Fertilzers and chemicals shop
- Shop selling agricultural and other tools
- Fish breeding farm
- Vintner, winery
- Production of vodka
- Production of butchery
- Mill
- Wood-working workshop
- Gasoline station
- Production of pipeline, spare parts, etc from metal
- Five barbers
- Repair of electric appliances /individual/
- Car repair service /individual/ Hire
- Agroequipment repair
- Carving on tombstones /individual/
- Tailor /individual/
- Photographer /individual/

The majority of these people work from home without licenses. Most of them have the same problem: poor villagers are either served on credit or barter i.e. pay with food (crop or meat and milk products) and their turnover is low. The cost of local services is very low (e.g. barber is only paid 200 drams for his/her work). Relatives and neighbors are served for free. The majority of these entrepreneurs cultivate land or raise cattle as "business is for bread only" (Vosketap Mkhchyan) and "small retail shops and crafts are to pay electricity costs and to buy cigarrettes" (Urtsadzor).

The majority of private businesses particularly the most profitable are controlled by men. The women's focus group in Noratus village involved mainly business-women who work in the following non-farm occupations: retail trade, midwife (legally prohibited private treatment), teacher (gives private classes), barber, tailor, nurse (also smokes fish) teacher. Women do most of the secondary employment in the fishery such as cleaning, smoking and selling fish Frequently girls aged seven clean fish too. The list of women-led businesses in Ararat marz is virtually the same.

Below we include an incomplete list of existing non-farm businesses in the Gegharkunik region:

- Geghhovit - bakery, two stone-cutting manufactures. Quarries next to the village were given by contract.
- Lichk - production of the gas from minteral water, restaurant, stone-cutting manufactures, fish breeding (state and private), chemicals trade
- Noratus – fish processing, fish breeding and fishing, production of vodka, restaurant, gasoline station, pharmacy, "Radio" ltd., which employs about 200 people, medical cabinet, a quarry, sand mine, one stone-cutting manufactures, two bakeries, three barbers, two car repair services, jeweler, stone-layer, painter, ten shops, motel and restaurant, cheese diary, fish smoking
- Tsak kar – production of sand, perlite
- Vardenik – bakery, production of soft drinks, caffee
- Torfavan – peatery
- Dzoragyugh - mill, sand mine

- Vardadzor - cheese diary, shop, gasoline station
- Gavar town – stone, wool processing, production of vodka, fish breeding, crayfish breeding (by French), production of sausage, gasoline station, pharmacy
- Verin Getashen – production of meat based on the farm, production of polyethylen membranes
- Pokr Masrik - mill /constructed by Norway/, community based
- Tazagyugh - production of industrial gloves and suits
- Gandzak - carpet making, production of bazalt pipelines
- Tsovazard - diary
- Karmir - production of carpet funded by the Tufenkyan foundation
- Sarukhan - (high number of migrants to Russia)
- Varser – bakery, mill; Lchashen - mill;
- Hayravank – quarry (not functioning)
- Tsovagyugh – bakery, summer camp on the shore of Sevan
- Zolakar – quarry
- Jil - wool processing (funded by the Tufenkyan foundation). It transpired that this wool processing is prohibited because of the pollution of Sevan
- Tsapatagh – motel
- Geghakar – production of tuff
- Lchavak, Tsovak – fishery
- Shorzha - rest house/ hotel

Many of the entrepreneurs and proprietors in rural areas are former or current administrative/ municipal employees, or people who gained work experience in Russia. Education is not that important for acquiring and or developing entrepreneurial skills. People with higher education generally prefer salaried employment in state/budgetary/ municipal institutions, considering the private sector as being too risky. It is difficult to run a private business in Armenia, because of the defiency of the tax system, and the system of protectionism/ corruption (see case study in Appendix 2).

In virtually all of the villages surveyed we observed abandoned sites where investments had initially been made. For example, in Urtsadzor, "*someone came in 1998 and constructed 200 sq.m. building, bought investment to run the mill. The mill operated for some time but brought no income. The guy gave up the mill and left for Russia. The mill has been shut down. First of all, it is mountaneous village, far from highways, and there are few customers. The mill was run maybe once a day for two hours. Neither the building is sold, nor the mill operates now.*" (From the interview with the head of the village administration).

5.2. Salaried non-farm employment

Preferred by many people, this type of activity is in fact a leftover of the Soviet past. It is associated with employment in state institutions, which in practice was almost the only type of employment. Currently, there is greater variety of salaried employment. The state employment in rural communities is actually badly paid and highly insecure work. The average monthly salary of teachers, medical service professionals, etc. is 10,000 drams (or about USD 20). It may be lower in some cases, while salaries are delayed for months (Khachaghbyur, Lichk, Mkhchyan). The employees of

budgetary/municipal or state institutions provide some input to an employee's family's budget, which is spent onr tax and utility payments, or buying clothes, etc. For the average family, this money accounts for about 10% of the household budget. Yet this money is important because it ensures cashflow for the family.

Other types of salaried employment in the private sector, includes seasonal or occasional day work. This is not considered prestigeous and people do not readily agree to work in this capacity. For example, in Noratus farmers are ready to pay 2000 drams per day for seasonal farm work. While villagers are reluctant to do this kind of work, people from Gavar (regional centre) do it. Beekeepers in Kachaghbyur village pay 1500-2000 drams. This work is done by refugees. Refugees also work in orchards for 1000-1500 drams especially during apricot and grape harvesting seasons. Refugees help each other to collect their own crop working in groups of 10-12 people. The work schedule corresponds to the timelines established by processing factories such as a winery or cannery.

5.3. Summary: Additional non-farm rural employment and income generating activities

5.3.1. Shuttle trading activities

While labour migration involves prolonged absences, the "shuttle trade" involves frequent travel but shorter absences from home, something which has attracted many women. They often travel with friends or relatives on organised bus or plane tours to neighbouring FSU republics or East Europe, where they sell Armenian wares and return with cheap consumer items for Armenian markets. Single, widowed, and divorced women, who lack a male breadwinner on whom to rely, are particularly active in this sphere. These activities only account for a very small volume of trade, but is particularly prevalent in North-western Armenia because it borders Georgia and Azerbaijan.

5.3.2. Army service

According to an agreement between Armenia and Russia, up to half the troops serving in Russian army units guarding the Armenian border can be Armenian. Their salaries provide an important source of cash, and a lively trade occurs in towns where the army units are stationed, creating an infusion of roubles into the local economy. In 1995, 80-90% of young men in some Armenian villages were serving in the Russian army.[15]

5.3.3. State sector employment

As previously noted, despite low wages, usually paid with several months' delay, state sector employment remains valued for the status, connections, and access to information that it provides. Women dominate the labour force in health and education, traditionally feminised professions which have become more so as men leave for higher-paid private sector and industrial jobs or else migrate. According to the World Bank farming survey, 20% of part-time farm workers are employed in village social services, mainly as teachers or medical workers, and most of these (70%) are women.[16]

5.3.4. Hired farm labour

As previously noted, although some poor men and women sometimes hire themselves out to more prosperous farmers, they find this arrangement a humiliating demonstration of poverty. As a result, men sometimes travel to distant villages to work so that their neighbours will not know they are working others. In addition, poor rural women, may tide their families over while they wait for remittances from abroad by doing housework for better off neighbours. We were unable to find data on internal temporary or seasonal migration for Armenia, to quantify the flow of labour.

[15] Dudwick, 1996.
[16] "Land Reform and Private Farms in Armenia: 1996 Status."

5.4. A community level summary of identified RNF employment opportunities and constraints?

Next we summarise what the participants in our focus groups identified as being key opportunities and constraints in developing rural non-farm employment and diversifying their livelihoods. We have classified these into two groups of opportunities and threats/ constraints:

Opportunities

a) The male population of Gegharkunik wants to buy small tractors to improve the productivity of their agricultural production. They claim to be able to repay the tractor loans within three years. Thus increased efficiency and improved productivity in agricultural production could be an opportunity; however some land consolidation would probably be necessary to enhance the prospects for success.
b) Potato chip production. Many respondents would like to start potato chip production in Gegharkunik. Currently, Artsvakar and Verin Getashen villages are trying to start production. Raw materials, premises and some equipment is available. Funding (a small amount of investment or capital) is needed to purchase new equipment.
c) Meat processing. There are several specialised farms in the region producing and processing meat. Small-scale farmers breed cattle. There used to be a large group of meat processing enterprises in Gavar. However, these were closed after privatisation. However, it may be possible to organise and revive the production of processed meats particularly sausages and frozen meat.
d) Animal-Hide/Skin processing. Every Sunday about 200 heads of cattle are slaughtered in the two largest meat markets of Gavar and Martuni (Gegharkunik marz). Only part of the skin gets processed. There is a huge meat market, store premises and skin processing specialists in Nerkin Getashen village. Funding is needed for the procurement of raw material, equipment and market research.
e) Wool processing. Thousands of tons of wool is damaged in Gegharkunik. Since 1991 wool processing has reduced by between 60-70%, wheras in the past sheep breeding used to be highly developed in the marz for wool processing purposes. More wool could be sold and produced if opportunities existed for further processing (knitting, textiles manufacturing etc.) and carpet production, which is a traditional business for the region.
f) Natural fruit juice processing and cannery facility: There used to be a large cannery in Martuni which is currently operating at a low capacity. Recent efforts by DAI-USAID at reinvigorating existing agri-processing units through providing training and expertise on market development, marketing and quality control systems could be built upon, given lessons learned to exploit Armenia's fruit juice processing capability.
g) Fish processing and canning. Production of *sig* (fish) cans in Martuni was shut down because of a lack of sales. With some marketing assistance and investment perhaps this processing activity could be revived.
h) Production of local herbs. Perhaps in the future Armenia could develop organic herbs having set-up a certification office and met the relevant criteria. The valued added for organic crops in western Europe and the USA is very high, and

demand for this product is growing. There is a wide variety of herbs available inAmenia.

i) Construction of gas pipelines and irrigation system in Khachaghbyur and other villages. This type of investment should create some manual/ labour and engineering jobs. Perhaps EBRD support could be secured to extend the existing domestic gas supply network, as most of the rural areas are not covered.
j) Processing of dried fruit. This has tremendous potential in Armenia despite some variation in processed quality.
k) Majority of women interviewed prefer salaried employment in the textile and food industries (production of carpets, textiles, fish cans). The textile industry is very small, although some cottage industry production of clothing still exists. Shoe production is also small and the former export markets for this output in Russia has been lost with the economic blockade. However, their may be some scope for greenfield investment in these light industrial activities. Perhaps business support and an enhanced role for the private sector could exploit this opportunity.

Threats/ constraints

l) Long-term (at least for three years) low interest/ free loans required. These loans are not available (and unlikely to be in the short-term).
m) The respondents need loans but would like to repay them in -kind (with produce). Opportunities for this are very limited.
n) Some respondents argued that loans should be provided based on business proposals instead of mortgages.
o) Poor and middle-status families prefer goods subsidies –seeds and fuel.
p) Irrigation system problems negatively impact agricultural productivity.
q) Reform of legislation in the field of tax and customs system, corruption and legal awareness of the public is needed, but is slow in being delivered by the GoA.
r) Protectionism and corruption of high level officials is rife and a significant constraint on MSME growth and a barrier to new market entrants.
s) Lack of confidence in or trust of government to overcome uncertainty and problems
t) Overwhelming majority of vulnerable/ poor families prefer reliable salaried employment and reasonable pay, preferably in state institutions.

6. Non-farm employment and activities of small enterprises in Armenia

6.1. Rationale

This section of the report goes deeper into our analysis of RNF livelihood diversification and employment generation. To date for most multilateral donors, the single most promising way of achieving greater RNFE improvements (particularly in income) has been to put emphasis on employment and creation of micro, small, and medium-sized enterprises (to which we collectively refer as SMEs). Many donors and NGOs have emphasised SME promotion and credit provision to SMEs as the core of their non-farm rural employment interventions in transition economies.

For the above reasons, this section of the report focuses on MSME and SMEs, those who have "s*uccessfully*" diversified out of full-time farming. Here we evaluate the firms' financial performance, identify characteristics of successful diversifiers, key lessons and factors which enhance the prospects for successful diversification. It should also enable the identification of possible policy entry points to improve and develop RNF enterprise and job-creating opportunities. We conclude this section with an empirical analysis of the determinants of enterprise performance, profitability and employment in the surveyed communities of Armenia.

6.2. Enterprise size and characteristics

The survey of rural enterprises having non-farm activities was conducted parallel to the rural community survey and included 45 non-farm enterprises. Considering the lack of previous information on enterprises operating in rural areas, equal sample sizes were selected in each *marz* (Ararat, Gegharkunik, Syunik), i.e. 15 enterprises in each *marz*. In 6 of the 7 communities selected in each *marz*, the interviewer randomly selected 2 and in the last community 3 enterprises, based on the diversity of activities. The groupings of non-farm enterprises, by communities and type of activities are presented in Table 24.

Table 24. Rural Non-farm Enterprises Fields of Main Activity by Community

Communities	*Agricultural processing*	*Bakery*	*Other industry*	*Trade*	*Health, social services*	*Other services*	*Total*
	N	*N*	*N*	*N*	*N*	*N*	*N*
Ararat Marz							
Hovtashen				2			2
Kaghtsrashen	1			1			2
Ajgepar			2				2
Mkhchyan	1					1	2
Dzorak			1	2			3
Dashtavan		1		1			2
Ararat	1		1				2
Total	*3*	*1*	*4*	*6*		*1*	*15*
Syunik Marz							
Tolors	1	1					2
Uts	1	1					2
Akhlatyan		1		1			2
Shaki			2				2
Ishkhanasar	1		1				2
Akner	1			1			2
Verishen	1			2			3
Total	*5*	*3*	*3*	*4*			*15*
Gegharkounik Marz							
Ljashen	1		1	0			2
Tsovazard			1	1			2
Gandzak				2			2
Karmir Gyugh		1	1	0			2
Noraduz				1	1		2
Chkalovka				3			3
Sarukhan				2			2
Total	*1*	*1*	*3*	*9*	*1*		*15*
Sample Total	**9**	**5**	**10**	**19**	**1**	**1**	**45**

The surveyed enterprises represent six sectors: processing, bakery, trade, health and social services, other industry[17] and other services.

A relatively large number of enterprises are involved in trade (42 percent), processing (20 percent) and bakeries (11 percent). Another 22 percent are involved in other industrial activities. Among the 45 enterprises surveyed 7 have other activities parallel to their main operations. Enterprises with parallel activities are mainly involved in processing (3) and trade (4). Secondary activities include the provision of other services.

Enterprises involved in trade are prevalent in Ararat and Gegharkunik *marzes*, while in Syunik *marz* processing is the main activity. Among the surveyed enterprises 17

[17] Other industry includes activities other than processing and bakery such as shoe making, dress-making, mechanics etc.

are limited liability companies (LLC), another 17 are individual proprietorships (IP), 8 are co-operatives and 3 Joint Stock Companies (JSC) (Table 25).

Table 25. Non-farm Enterprises Grouped by Field of Activity and Legal Form

	Co-operative		*LLC*		*CJSC*		*Individual proprietorship*		*Total*
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*
Agricultural processing	1	11,1	4	44,4	2	22,2	2	22,2	9
Bread production			5	100,0					5
Other industry	3	30,0	5	50,0	1	10,0	1	10,0	10
Trade	4	21,1	1	5,3			14	73,7	19
Health, social services			1	100,0					1
Other services			1	100,0					1
Total	**8**	**17,8**	**17**	**37,8**	**3**	**6,7**	**17**	**37,8**	**45**

Among the limited liability companies 29 percent are bakeries, 29 percent are involved in other production activities and 24 percent are processing factories. Individual proprietorships are mainly formed for trading activities, 14 out of 17 individual proprietorships surveyed are involved in trade. A large number of co-operatives are also involved in trade (50 percent).

Among the 45 enterprises surveyed, 34 were founded in 1997-2000, 42 are still owned by their founders, 2 (one JSC and one LLC) have been acquired by others and one (co-operative) was inherited by a family member.

The organisational form of the enterprise does not pre-determine the number of its full-time employees. As shown in Table 26, the average number of employees per enterprise is 6, ranging from 2.6 employees (co-operatives) to 8.2 employees (LLC's).

Table 26. Full-time non-family employees

	Number of enterprises	*Total number of workers*	*Average per enterprise*
Co-operative	8	18	2,2
LLC	13	107	8,2
CJSC	2	14	7,0
Individual proprietorship	2	6	3,0
Total sample	*25*	*145*	*6,0*

There are no full-time employees in 20 enterprises (46 percent). According to the Act No. HO-121 adopted by the National Assembly on 5.12.2000, these enterprises, together with 16 others having 1-5 employees, are considered micro-enterprises. It should be noted that 17 of these enterprises are individual proprietorships. The mentioned law classifies the other 8 enterprises, with 6-30 employees each, as small enterprises. Thus, of the 45 enterprises surveyed, 37 are micro- and 8 are small. Among the 8 small enterprises only 2 have more than 15 employees: one processing enterprise with 20 employees and one manufacturing enterprise with 30 employees.

6.2.1. Personal entrepreneur/ owner/ manager data

The average entrepreneur (owner/ manager) in the sample is a middle-aged, local male of Armenian ethnic background with a relatively high level of education. Over half (24) the respondents have completed higher education, and of the rest most (19) have completed secondary education (mostly general, in 4 cases professional). The age of respondents was varied. Of all 45 respondents, 14 are in the 24-35 age group, 14 in the 36-45 group, 15 in the 46-55 group, and 2 are over 55 (65 and 77). They were most frequently (39 cases) male and Armenian (44 cases), and mostly have lived in the local area all their life (41 cases). Half (22) the entrepreneurs have dependent children. Most (35) describe their business location as 'very' (23) or 'moderately' (12) rural; only one reports to live in an urban area.

Unsurprisingly, by far the most important reason for having the business is to provide a main source of income (rank 8 of 10). Also important are the ability to do this work and live rurally, to develop a personal interest, and to create jobs (ranks 6, 5 and 5 respectively). If we group the factors presented in Table 27 by "distress-push" (income, employment, only possibility) and "demand-pull" (family business and continuation of traditional methods, personal interest, turning knowledge into capital, finding a suitable business and freedom to manage one's own time), we will see that presently, compared to the start of the business, the importance of distress factors has decreased by 0.29 points, and the importance of demand factors has increased by 0.74 points.

The reported present aims of the entrepreneur do, on average, hardly differ from those reported as motivations for starting up the business. Table 27 summarises respondents' motivations.

Table 27 For a minority of respondents, motivations changed since the start of their business

Motivation	*Ranking, score of importance, Scale 1-10 (n=43)*				*# Respondents who changed ranking*	*Average change*
	…..for starting the business		*… for having the business now*			
To provide the main source of income.	1	*8,5*	1	*8,3*	8	-1,8
To provide additional source of income.	5	*4,6*	3	*5,7*	19	2,0
To avoid or prevent unemployment.	8	*4,3*	6	*4,6*	20	0,4
To carry on the family business.	9	*4,1*	9	*4,4*	19	0,2
To capitalize on my skills/training.	7	*4,3*	7	*4,6*	17	0,3
I had a personal interest that I wanted to develop.	3	*5,3*	5	*5,0*	18	-1,3
Freedom to use traditional methods.	11	*3,5*	11	*3,5*	16	-0,3
Only way to do this work and live rurally.	2	*5,7*	2	*6,0*	17	0,2
To find more preferable business.	6	*4,4*	8	*4,6*	19	-0,2
To provide employment for the family members.	10	*3,6*	12	*3,1*	15	-1,9
Create jobs	4	*4,9*	4	*5,2*	16	0,3
To be able to spend the time the way I like.	12	*3,4*	10	*4,3*	25	1,4
Other	13	*1,6*	13	*1,5*	1	3,0

There are some motivations that are likely to be satisfied once a business is started, which will then become less important. This is true for provision of additional income, developing a personal interest, providing employment to family members, and finding a more suitable business. In line with conventional notions of entrepreneurship, obtaining a main source of income remains of paramount importance. Preventing unemployment appears to have become more important, although the importance attached to this change is limited by the small change in score levels that underlies it.

The small average changes in scores and ranking reflect the fact that many respondents do not report changes at all (see the sixth column). Studying the subset of respondents who did change their ranking of aims between starting the business and the moment of surveying shows that there are a few significant shifts (scores changing more than 1 point). The importance of providing an additional source of income rose most dramatically in this group, while that of providing a main source of income fell correspondingly. Providing employment to family members became less important, and being able to spend time in the preferred way became more important.

The picture that emerges is that a significant minority of entrepreneurs after the start-up phase shift their business priorities away from income and economic security, and

towards lifestyle and or activity preferences; although this does not affect the primacy of the business as a main income source, even within this group.

6.2.2. Enterprise Characteristics

The enterprises in the sample are specialised. Asked to rank 13 activities in order of importance, only a few respondents use rank 2, and ranks 3-13 are absent. They are all fully involved in non-agricultural activities, but for one respondent who spends a fifth of his time in agricultural production. Most frequently, main activities as reported by the respondents are trade (19 cases) and agricultural processing (10). When classified by product, over half (26) the respondents are linked to the agricultural sector, in almost all cases through food processing or trade in food products.

Most (34) enterprises were established in 1997-2000, and none before 1989. Most (42) were also started by a single person rather than taken over from a family member (1, in 1997) or bought (2, in 1997 and 1999). Most (39) business facilities are owned, the rest are leased. Only 9 respondents reported on their firm's legal status, all of whom were classed as self-employed. Sales are most often to individual customers and households (39 cases) and to shops (17 cases). Sales to enterprises and the public sector are more rare (16 cases between them). The *share* of sales is also largest for those to individual customers and households (72 and 66 %, respectively). Of the other options only sales to a wholesaler, reported by 5 respondents, is of similar importance (67 %). Almost all (40) respondents report a large share (77% on average) of customers within a distance of 25 km, and a fifth (9) report that half their sales go to customers more than 150 km away. No export sales are reported.

Suppliers are also mostly located in the local area: 30 respondents report an average 86 % of inputs suppliers located less than 25 km way, while 21 report large input shares (about two thirds on average) coming from between 25 and 100 km. Two respondents have their inputs supplied from abroad: one from the CIS, the other from EU and other countries (for 85 % of total inputs).

6.2.3. *Labour and Capital*

Most (28) businesses have other workers besides the entrepreneur. In only 5 cases this is the spouse, in 24 cases there are non-family members in full-time employment. In these 24 enterprises, there are most often (14 cases) up to 3 employees, with an average of 6. Only two respondents are also shareholders in another business, two others have been business owners in the past, and two are employed by someone else.

About half (21) the respondents report that their workload is roughly the same each week, and nearly a third (13) has seasonal variation. Just over half (24) the respondents work between 41 and 45 hours weekly in their enterprise, with the rest evenly distributed over longer and shorter work hours.

About two thirds of the enterprises reported on their registered capital in 2000 and their turnover in 1999. These were AMDs 4.3 million (n=29) and 3.7 million on average, but with a large spread (S.D. of AMDs 9.2 and 8.4 respectively)[18].

6.2.4. Finances

Average salary expenditures, total expenditures and income during the year 2000 were reported by most respondents. Variations over respondents as well as over regions in these variables were large, as is clear from Table 28.

Table 28 Expenditures and income in 2000

Expenditure category	*Region averages (1,000 AMDs)*			*Whole sample(n=45)*
	Syunik	*Gegharkunik*	*Ararat*	*Mean (S.D.)*
	(n=15)	*(n=15)*	*(n=15)*	
Salary expenditures	568	1,726	416	944 (3,108)
Total expenditures	3,832	3,993	2,450	3,392 (4,984)
Income	1,088	4,706	1,111	2,302 (5,054)
Charges	334	941	331	545 (1,376)
Taxes	2,498	1,111	290	1,299 (4,384)
Interest (n=3)	9,022	360	-	3,247 (5,007)

Note: For the first three columns, one outlier value in Gegharkunik was removed, with expenditures and income around AMD 100 million.

Respondents also reported on their purchases in the year 2000. The items they mentioned were categorised as food (including health) expenditures[19], energy expenditures (electricity, petrol, wood) non-food purchases (stones, 'photography materials'), and other expenditures (e.g. 'goods'). Most frequently mentioned are food expenditures (63 times). Productive goods and energy were reported equally frequently (16 times), and other goods slightly less often (12 times). Expenditure levels follow a similar ranking.

Expenditure patterns varied widely over respondents, with standard deviations between 3 and 7 times average values. Also regional variations were observable. Enterprises in Ararat appear more often engaged in food processing, and to have larger input expenditure levels overall (Table 29).

[18] AMD denotes the Armenian currency, the Dram, which was introduced in 1993. After initial hyperinflation, the Dram value had been quite stable since 1995. Its value is about 500 dram to the US dollar (in 1998).

[19] Food items mentioned include agricultural products, bakery products, medicines, black oil, fish, bread, flour, cigarettes, food products, fat, meat, milk, syrup, bread, salt, wheat, vodka, cigarettes, spices, water, salt, yeast, sugar, garlic, and vegetables.

Table 29 Expenditures on inputs in the year 2000

Input categories	*Region averages (1,000 AMDs)*			*Whole sample (n=45)*
	Syunik	*Gegharkunik*	*Ararat*	*Mean (S.D.)*
	(n=15)	*(n=15)*	*(n=15)*	
Food product	478	496	1,279	776 (1,396)
Energy	0	260	213	156 (551)
Non-food inputs	48	124	468	225 (638)
'Other' inputs	195	62	133	129 (434)

Note: Outlier values (expenditures over AMDs 10 million) were removed.

Sales reports over the year 2000 confirm that most enterprises are specialised: 36 of 43 respondents reported the sale of one product, four reported two products, and another four reported selling three or more products. Sales are categorised as food products (in all cases processed, e.g. bread, flour, cheese, sausages and vodka), and non-food products. Non-food products include agricultural inputs such as seed and pesticides, industrial products such as stones (bricks?) and petrol, and craft products such as carpets. Some products are obviously traded rather than produced, such as in the case of petrol, or of the one respondent who buys and sells 'potography materials'. Over half (27) of the respondents sell food products, in three cases in combination with non-food products, which are sold by 23 respondents. Food sales, if calculated on the basis of sales volume and unit prices, average AMDs 188 million, non-food sales are AMDs 166 million on average per respondents, both with standard deviations of about 4 times the average. Fourteen respondents report that they consume some of the produce themselves, the shares varying between 1 and 50 %, with an average of 11 %.

If these sales findings were representative for the Armenian rural economy in general, two things seem most worth noting. The non-farm rural economy is strongly agriculture-related, mainly through processing but also by providing inputs. The policy question is not how the trade-off between agricultural and non-agricultural employment and incomes are, but rather how enterprises in the non-agricultural part of agri-food sector can be supported. Second, rural non-farm enterprises vary greatly in size as measured in revenue levels. Polices designed to support them should be accordingly flexible.

6.3. The relationship between rural non-farm enterprises and financial markets

The development of a viable rural financial market is one of the main factors contributing to the development of non-farm enterprises. In Armenia, most private firms in rural areas are micro-enterprises and usually uncompetitive. Privatisation is an important, but not adequate precondition for economic growth. It should be accompanied by financial investments directed towards rural non-farm enterprises. In Armenia, however, as in many other transition economies, the government and banks have mainly focused on large enterprises, largely ignoring the micro-enterprise sector.

6.3.1. Credit and savings of surveyed enterprises in 2000

Capital shortage reportedly inhibits business growth in 20 cases, of whom 13 also plan to expand their business. For 12 respondents capital shortage is no constraint, of whom only 5 do also plan to expand. Most of those who are capital-constrained feel this hinders an increase in turnover (14) and in acquiring fixed assets (12). One respondent would expand business staff if there were better access to capital. The most frequently mentioned reason for capital shortage is a lack of own capital or of collateral to attract it (17 cases) ('lack of funds', which appears to refer to the same, is also mentioned twice). Also attitudes to debt appear to be important: over half (11) of capital-constrained respondents report they 'do not like borrowing'. Five give as the constraining reasons that they already have debt, 13 mention high interest rates, 3 think the bank assessed the risk attached to their business as too high, and 8 have problems obtaining a grant.

In sum, limitations in access to credit or other funds are quite general, and derive from a number of factors. On the demand side there is a limited debt-carrying capacity (in turn caused by lack of collateral and by debt-averse attitudes). On the supply side, possibly insufficient risk assessment skills in banks, and high interest rates appear to play a role. The findings suggest that relaxation of the capital constraint would probably result in output expansion, but not clearly in more rural employment.

Indeed, the only constraint on production reported is capital, not labour, land, buildings or other factors offered as answer options. Of those indicating a capital constraint, over two-thirds (33) specify that working capital is the bottleneck. The amount needed to solve the problem is reported as AMDs 11.2 million on average. The other respondents say capital for investment is needed (AMDs 4.9 million on average).

Many respondents are also liquidity-constrained: most (34 of 45) respondents think profit is insufficient to cover costs for equipment replacement, premises refurbishment and such; another 10 feel they can cover those costs by profits, but with difficulty. Still, the majority (30) have not applied for a loan in the past five years. Those who did apply were evenly distributed over successful loan applications (7) and loan refusals (8). The average loan sum obtained was AMDs 7.5 million (with observations varying between AMDs .5 and 2.7), most often (in 5 cases) from a bank. Only 3 out of 45 respondents had applied for a grant in the last five years, and unsuccessfully so far: one as refused, two had not received a reply yet.

Only 6 of 45 respondents applied for a loan in the year 2000. Half of them did not receive credit; in two cases because of a lack of collateral, and once because nobody would guarantee the loan. Table 6 presents an overview of the experiences of the successful loan applicants.

Table 30 Experiences of three successful loan applicants

Applicant	1	2	3
Amount applied for (1,000 AMDs)	500	3,000	26,150
Amount received (1,000 AMDs)	500	3,000	26,150
From institution	Oxfam	Bank	Bank
Date received	1 March	1 September	1 September
Use of loan	Business expansion	Capital investment	Buying materials
# Instalments	1	1	3
Time between credit approval and first instalment (months)	0,5	2	1
Guarantee used	House	Equipment	Equipment
Annual interest rate (%)	24	20	18
Required total repayment (1,000 AMDs)	600	3,600	3,0857
Amount already repaid (1,000 AMDs)	200	3,600	9,022
Still to repay	400	0	21835
#Repayment instalments	20	,	3
Final instalment date	1 September 2001	1 December 2001	1 October 2001
Was repayment schedule adhered to?	Yes	Yes	Yes
# Interviews with credit allocator	5	5	3
Duration of meeting (hours)	0,5	5	5
Was a bribe paid?	No	No	No

The most frequent (26 of 39) reason for not applying for credit at all is that assessment criteria are deemed too severe. The severity of credit allocation criteria is most often (15) specified as overly high interest rates, and half as often (8) as lack of collateral. Six respondents indicated their income to be too low to meet repayment demands. The only other reason for not applying that is mentioned with some frequency (5) was good access to funds via friends and family. The rest of the answer options are never used more than twice in the sample.

Five respondents who did not obtain a loan from an institution, borrowed from friends or family in 2000. The amounts borrowed (in 1,000 AMDs) were 6,871, 100, 165, 500, and 130. The first two of these were obtained at zero interest rates; the last three at 5 %. No bribes or gifts were given in exchange for obtaining the loan.

Credit received by rural non-farm enterprises in 2000 did not have high interest rates, only 18-24 percent per year. These are probably credit lines provided by various international organisations (e.g. Oxfam), since Armenian commercial banks charged 30-45 percent interest rates for the loans they provided in 2000.

A fifth (9) of the respondents had saved from their enterprise profits in 2000. The levels varied widely, both between respondents and over time. This is depicted in table 7. Only one of the respondents (no. 3 in the table) held these savings in a bank, at an annual interest rate of 26 %.

Table 31 Savings from enterprise profit in 2000

Respondent	*Savings from enterprise profit (in 1,000 AMDs)*	
	In January 2000	*In December 2000*
1	31	1,000
2	-	1,251
3	200	300
4	1,000	1,500
5	24,2	-
6	-	40
7	155	905
8	1,388	4,080
9	200	500

Savings of enterprises in 2000 have improved considerably. Among the surveyed enterprises only 9 have had savings due to their activities in 2000, and two enterprises listed the banks in which they have savings (Agrobank, Anelik bank). During the year, savings per enterprise increased 2.7 times. By enterprise type, limited liability companies are in a better situation, accounting for 38 percent of the sample they account for 60 percent of total savings. In Armenia, our comparative analysis of economic indicators for various types of enterprises suggests that limited liability companies have the best prospects for development in farm and non-farm activities.

6.4. Human resources and employment in the RNFE

Considering the relatively high rural population density in Armenia and severely limited natural resources, the development of rural non-farm activities is important for mitigating rural poverty. Our respondents suggested that the main obstacles hindering this development are: a) shortage of start-up capital; b) absence of information infrastructure; and c) corruption.

6.4.1. Owners of rural non-farm enterprises

Owners of the surveyed enterprises are, as a rule, also their directors. The average age of owner/managers is 42 years of age (Table 32).

Table 32 Level of formal education and age of owners/ managers

	N	*%*	*Average age*
Primary	1	2,2	70,0
Secondary	11	24,4	41,4
Secondary professional	7	15,6	46,1
Incomplete higher education	1	2,2	32,0
Higher	24	53,3	40,7
Postgraduate	1	2,2	27,0
Total	*45*	*100,0*	*41,9*

In general, the share of owner/managers with a specialisation is a fairly high 74.3 percent, of whom 55 percent have higher education and 17.8 percent have unfinished higher education and secondary vocational education. Only 1 respondent had elementary school education, but he had a lot of work experience (the respondent was 70 years old). As shown in Table 32, there is a correlation between the age and education of respondents: the younger the owner, the higher the education level. Thus there is a trend toward the emergence of younger and better-educated people involved in rural non-farm activities. Typically, the majority of those with a low level of education prefer trade, and their preferred form of organisation is individual proprietorship, since this type of activity and form of organisation is much less complex and easier to establish than the others.

Table 33 Financial performance indicators by level of formal education in 2000

	Turnover per standard full time worker (US$)		*Profit/expenditure %*		*Annual net profit per enterprise (US$)*	
	Average	*Number*	*Average*	*Number*	*Average*	*Number*
Primary	1714,6	1	18,0	1	1297,5	1
Secondary	2665,7	10	24,3	10	972,8	10
Secondary professional	2136,8	6	5,6	6	204,2	6
Incomplete higher education	4745,1	1	14,2	1	565,3	1
Higher	5134,6	24	4,1	24	1169,9	24
Postgraduate	421,3	1	18,8	1	695,1	1
Total	*4301,8*	*43*	*5,5*	*43*	*967,2*	*43*

If we use turnover per one standard full-time employee[20] criteria, enterprises managed by owners/ directors having higher education have achieve higher turnover than those with less educated owners/ directors by 2-3 times (see Table 33). However, if we use cost-benefit and average net profit indicators, the higher education group lag behind other education groups. The reason for this is that among the 3 enterprises receiving credits in 2000 (as mentioned previously), 2 are from this group. It should be noted that the results of our survey are inconclusive and that obviously additional factors have an effect on enterprise performance.

6.4.2. Employment and evaluation of productivity

More than half of the owner/ managers (53.3 percent) work 31-45 hours per week, in enterprises of Ararat *marz* 66.7 percent, in Gegharkunik *marz* 53.3 percent and in Syunik *marz* 40 percent. In 14 enterprises (31.1 percent) the work is more than 46 hours per week. Among the surveyed enterprises only one besides its main activity is also involved in farming, which occupies 20 percent of its work hours.

As previously noted, 21 of the surveyed enterprises (46.7 percent) do not have full time employees. The remaining 24 enterprises have one or more full time employees.

[20] The standard employee was calculated by the following coefficients: fully occupied (including active partner) 1, occupied half of the time 0.5, often and irregularly occupied 0.2, seldom and irregularly occupied 0.1.

It should be noted than non-formal employment or hidden employment is widespread in Armenia (particularly among individual proprietors). These firms hide employment in order to avoid income tax, pension fund payments, etc. Many of these previously had the status of "individual entrepreneur", and did not have the right to employ people until the new Civil Code came into force in January 1999.

At the time of the survey 258 people were fully or partially employed in the surveyed enterprises. In order to conduct a comparative analysis of workforce productivity for various types of enterprise, part time employment was recalculated using the standard full-time employment equivalents using the following coefficients: occupied half of the time 0.5, often and irregularly occupied 0.2, seldom and irregularly occupied 0.1.

Table 34 Full-time workers per enterprise by community

	Communities	*Average*
	Ararat marz	
1	Hovtashen	2,0
2	Kaghtsrashen	1,5
3	Ajgepar	1,2
4	Mkhchyan	6,0
5	Dzorak	1,7
6	Dashtavan	6,0
7	Ararat	5,0
Average Ararat marz		*3,0*
	Syunik marz	
8	Tolors	2,5
9	Uts	3,6
10	Akhlatyan	3,0
11	Shaki	6,0
12	Ishkhanasar	3,5
13	Akner	1,0
14	Verishen	3,7
Average Syunik marz		*3,4*
	Gegharkunik marz	
15	Ljashen	30,0
16	Tsovazard	0,8
17	Gandzak	1,0
18	Karmir Gyugh	22,5
19	Noraduz	1,5
20	Chkalovka	6,4
21	Sarukhan	1,0
Average Gegharkunik marz		*8,8*
Sample Average		***5,2***

On average there are 5.2 conditional full-time employees per surveyed enterprise, ranging from 0.5 to 45 employees. Partnerships and limited liability companies (9 on average) have 2 times more standard full time employees than co-operatives (4 on average) and 6 times more than individual proprietorships (1.4 on average). In order to evaluate the productivity of the workforce, we present the figures for turnover per employee by enterprises' form of organisation and type of activity (Figure 4 and 5).

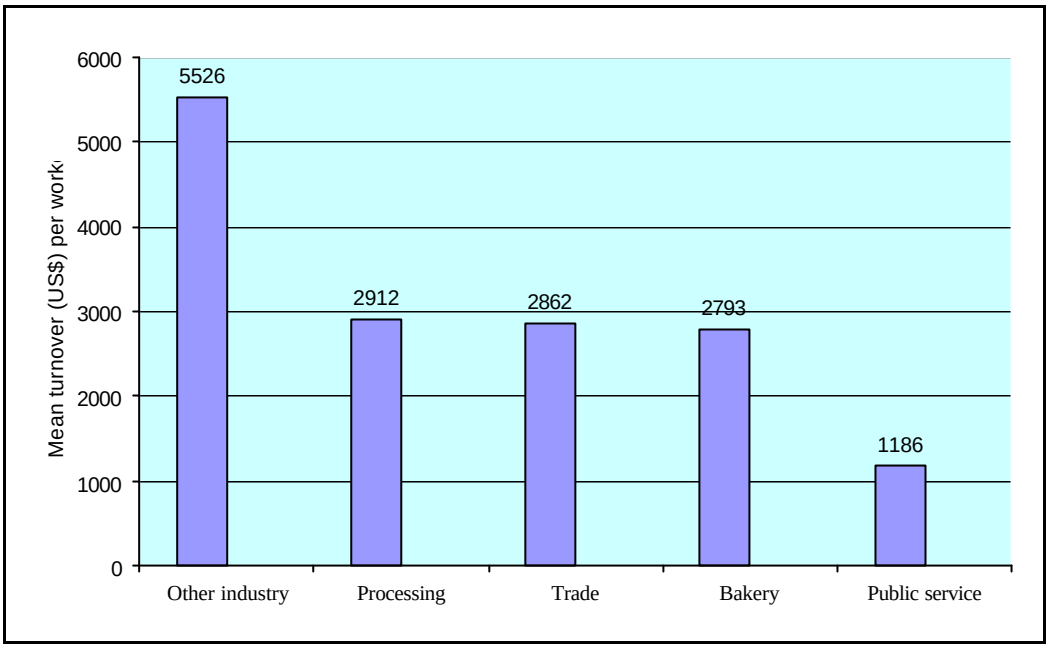


Figure 4 Turnover (US$) per full-time standard worker by field of activity in 2000

By form of organisation, the highest workforce productivity was recorded in limited liability companies, and the lowest in partnerships, and by type of activity those involved in other production have the best indicator, while those providing public services show the poorest performance.

6.5. The institutional environment

6.5.1. Enterprise location

The distance from various institutions, clients and suppliers can have a decisive role in the development of non-farm enterprises. Poor infrastructures and communications limit the development possibilities of non-farm enterprises, and long distances from institutions and markets could have a negative effect on competitiveness and/or co-operation.

The distance to various institutions is summarised in Table 35 below. It appears that those institutions most frequently used (suppliers, bank and post office) are in the local economy. Institutions supplying additional services are generally more remote. The considerable standard deviations imply large differences in these factors over respondents. It should be noted that, given the lack of data on transportation infrastructure and relative distance, it is hard to assess to what extent these findings indicate that the factor distance to institutions is a barrier for business operations. However, it could be argued that the relatively long average distance from extension services (37.4 km) is a cause for concern, since their services are very important, because of the "young" age of businesses, and the general lack of experience in doing business in a market economy.

Table 35 Approximate distances to various institutions

Approximate distance to…		
	Mean	*SD*
Main suppliers*	28	37
Bank	7	5
Post-Office	3	3
Training for employees	42	81
Business training courses	64	100
Business club/association	33	27
Chamber of Commerce	89	49
Marazpetaran/district council/	46	46
Consulting services	13	17
Insurance company	23	53

* One case with a supplier 2,000 km away was excluded

6.5.2. Business support

Business support, to the extent that it was sought, is mostly found in the private sector. Over the last ten years (which really means over the last few years), of the 45 respondents to this question, many had approached a consultant or accountant (reported in 20 cases), a bank manager (17), family and friends (15), trade and professional organisations (14), and contacts in industry (12). Among the public institutions, the local council (13) and Marz council (12) are most often mentioned, other bodies much less frequently. The type of assistance sought was most often (21 of 30 responses) financial. Only one respondent had access to the Internet.
Given the plausibly considerable need for advice and information and, apparently, still limited role of the public sector in providing this, these figures may be interpreted to suggest that there is scope for expansion. The desirability and effect of this would depend on the extent to which rural entrepreneurs are presently excluded from such support because they cannot afford private sector assistance. This is something that the present data provide no information about.

The reported usefulness of different types of business support appeared much larger in two *marzes* (Gegharkunik and Syunik) than in the third (Ararat).[21] Background data on these regions could provide an interpretation to this finding, and a more detailed regional analysis of this topic, not pursued here, appears promising. Table 36 presents an overview of findings. First considering the usefulness in the past, present, future, or in general taken together (right-hand column) , support in the area of 'new technology' is found to be most often mentioned overall. Least frequently mentioned are 'employing staff', 'management organisation' and 'computing'. These are understandable findings in a sample from micro-businesses with low technological requirements and virtually no access to information technology. The other 10 business support options are mentioned with very similar total frequencies.

[21]The 30 respondents from Gegharkunik and Syunik all provide an answer to each of the 14 sub questions. The 15 respondents from Ararat have many missing values.

Table 36 Required areas of support, past, present, future, and general

Business support area	*Which of these would have been useful to you?*				
	In the past	*In the present*	*In the future*	*In general*	*Total count*
Business strategy	10	8	11	7	36
Negotiation skills	4	14	7	11	36
Employing staff	8	3	8	13	32
Staff training/development	9	6	15	5	35
Management organisation	1	5	9	18	33
Advertising	2	9	10	16	37
Marketing		6	9	19	34
Market research	1	8	2	26	37
Identifying new market opportunities		5	16	16	37
Public relations	8	5	15	7	35
Financial management/taxation		8	3	24	35
Developing new products, services		4	18	13	35
Computing	2	8	4	19	33
New technology		6	22	12	40

The incidence of non-response in the second column suggests that respondents seem to have been less aware of past needs, than of present and, particularly, future requirements. With regard to the past, business strategies and staff training and development are, understandably for (then) starting businesses, ranked highest. The main present need is reportedly negotiating skills, while support in obtaining technology and developing new products and services are seen as the most important future requirements. In general, market research and support in financial topics is deemed most helpful. These findings appear to fit well in a sample of relatively young businesses just out of the starting phase, and could be used to guide the development of policies in support of the Armenian non-farm rural economy.

As presented in the table, enterprises have often requested financial consultancy services (20) for their bookkeeping. This is because of the process for the implementation of international bookkeeping standards in the country. Other reliable sources of consultancy are knowledgeable friends and relatives. Banks and organisations involved in production and trade have often been consulted as well. In this regard the passive attitude of enterprises in Ararat *marz* is notable, considering their proximity to the city of Yerevan, where the majority of consultancy and financial services, as well as other relevant organisations are located.

6.5.3. Local development factors

Of the 45 entrepreneurs, 40 responded to a question about the importance of various local factors for their business. The results are summarised in Table 37; factors are ranked in order of descending importance on average (column 5).

Table 37 Importance of local factors for rural enterprises

Local factors	*Reported importance for business*			
	Frequencies			*Mean value (1=high, 2=medium, 3=low)*
	High	*Medium*	*Low*	
Electricity costs	27	13	1	1.4
Charges for communal services	22	15	4	1.6
Energy supply	21	18	2	1.6
Roads network	21	14	6	1.7
State financial protection	22	10	8	1.7
Salary rate	19	13	8	1.7
Access to water	20	15	6	1.7
Availability of dwellings	11	28	1	1.8
Availability of qualified labour	12	26	3	1.8
Labour motivation	13	22	6	1.9
Telecommunications	16	14	10	1.9
Connection to the railway	6	13	22	2.4
Availability of unqualified labour	1	25	15	2.4

The three frequencies columns show that most factors are much more often deemed of high than of medium importance. This is true for the top 7 factors ('electricity costs' down to 'access to water'). Most factors are considered of medium importance, only one is deemed highly important, and no factor is considered of low importance on average (i.e. has a mean higher than 2.5). Many factors are considered about equally important (mean 1.7-1.9). The high importance of electricity costs suggests that many businesses are energy-intensive. This is probably not true for the 19 trade businesses in the sample, but would fit better with the 10 processing enterprises.

If we consider, the most important local factors rated as hindering the activities of businesses one of the main factors is railroad connection, which was rated as unsatisfactory by 55.8 percent of respondents. During the survey at community level, among the 21 communities 17 had rated railroad communications as unsatisfactory. The next important factor hindering businesses is the unqualified workforce (35.7 percent) and poor telecommunications (25.6 percent). The relative impact of factors varies between the *marzes*. In Syunik *marz* important factors contributing to business development are road networks, housing conditions and financial protection by the state, and the main obstacle is an unqualified workforce. In Gegharkunik *marz* the most important factors hindering businesses are road networks, financial protection by the state and telecommunications, while in Ararat *marz* the main factor is water supply.

66.7 percent of respondents evaluate the level of legal protection in Armenia as unsatisfactory. Legal safety in Armenia is assessed as low by most (28 of 42) respondents, and of medium quality by the rest. Almost all (43) respondents rank the importance of various local development factors. The results are presented in Table 38.

Table 38 Ranking of importance of local development factors

Locality development factors	*Average Importance score, scale 1-10 (1=unimportant, 10=important)*
Non-agricultural fields development	7,5
Intensive development of agriculture	7,4
Central, local budget support	6,7
Infrastructure development (electricity, phone, gases, roads, etc.)	6,7
Improvement of the medical assistance, health protection	6,7
Cultural institutions development (school, library, etc.)	6,3
Elaboration of projects suitable to the locality development	6,2
Own effort of the local community	5,4
Local autonomy achievement	4,9
Reforms, speeding-up privatization	4,8
Cooperation with foreign countries, adhesion to Russia., etc.	4,8
Tourism promotion	4,2

The two most general options elicited the most positive response on average, and were nearly equal in average score: non-agricultural development was most uniformly supported as most important, while agricultural development was more often assigned slightly less importance. The more abstract rural development goals (locally suitable projects; community effort; local autonomy) were seen as less important, the more concrete projects generally as more important (but for tourism). Development goals not directly related to the local community (reform progress and foreign co-operation) ranked, understandably, low.

6.5.4. Plans and prospects for the development of small enterprises

Most respondents are optimistic but cautious with regard to the near future (the next 2 years): 19 planned a slight business expansion over the next two years, 13 aimed at stability in that period. Of the other thirteen, six did not know about their plans. It is interesting that enterprises willing to expand are from both the lowest profit (US$ 350.4) and the highest profit (US$ 1690.5) enterprises. Over the longer term, respondents in large majority (39 of 44) aim at stability, while 5 plan slight expansion.

Nearly a third (13) of respondents think there is demand for increased production, but more respondents (19) deem demand to be a constraint on business expansion. The large number of respondents (13) who do not know the answer may signify considerable uncertainty about market conditions. Most (32) enterprises work below production capacity, and also a large minority (18) plan to expand the business. The numbers of respondents who are not planning to expand, or in doubt about this, are about similar (13 and 14). The main determinant of this attitude may be demand: most (11) of those who hesitate about expansion also report to be uncertain about market demand for increased production. Problems with finding space are an expansion constraint for 9 respondents, most (6) of whom are actually planning to expand. In 5 of these 9 cases, refused permission to expand is the reason of the constraint, in the other cases space on the business premises is too limited. No-one reports staffing problems as a constraint. The most promising activity is considered to be retail trade,

where 16 out of 19 enterprises are willing to expand, next comes other industry 8 out of 10, processing 6 out of 9 and bakery 3 out of 5.

6.6. Net annual profit, cost/profit coefficients

Among the 45 enterprises surveyed 43 answered the question regarding net profits, and their average net profit in 2000 amounted to US$ 967.2. The biggest loss in 2000 was recorded at US$ 4984.2, and the largest profit was US$ 11651.5.

Table 39 Statistics for annual net profit –sample total

Annual net profit (US$)		*Statistic*	*Standard Error*
Mean		967.2	367.9
95% Confidence interval for mean	Lower bound	231.4	
	Upper bound	1703.0	
5% trimmed mean		787.4	
Median		511.6	
Skewness		2.17	0,361
Kurtosis		9.6	0,709

Note:
5% trimmed mean is an arithmetic mean calculated when the largest 5% and the smallest 5%of the cases have been eliminated. Eliminating extreme cases from the computation of the mean results in a better estimate of central tendency, especially when the data are non- normal.
Skewness is a measure of the asymmetry of a distribution. The normal distribution is symmetric, and has a skewness value of zero.
Kurtosis is a measure of the extent to which observations cluster around a central point. For a normal distribution, the value of the kurtosis statistic is zero measure of the.

As shown in Table 39 the standard error is quite high and thus it is better to consider the 5 per cent trimmed mean statistic, which indicates a level of US$ 787.4 and Median value in particular, which indicates a level of $511.6 per firm. There may be some correlation between non-farm enterprise profitability and the type of activity or market in which the firm operates (see Appendix 3 for more information).

Among the 43 surveyed enterprises (2 enterprises did not provide data) 39 had profits in 2000. Among the 4 enterprises operating with losses, 3 (located in Syunik *marz*) are involved in food processing and one (in Ararat *marz*) in other industry. The largest average profit per enterprise in 2000 (US$ 2433) was recorded in the processing sector, and the highest profit/cost ratio (17 percent) in the bakery sector.

The increased number of agri-processing enterprises operating with losses compared to 1999 might be explained by the growth in competition and/or lower volumes of agricultural products available for procurement due to the drought of 2000. Groupings of successful or non-successful enterprises by type of activities are presented in Table 40.

Table 40 Most and least successful non-farm enterprises

		Rank	*Primary activity*	*Value (US$)*
Annual net profit 2000 (US$)	Highest	1	Agricultural processing	11651,5
		2	Trade	6428,2
		3	Other industry	4765,5
		4	Bakery	4754,4
	Lowest	1	Agricultural processing	-4984,2
		2	Other industry	-2215,0
		3	Trade	44,5
		4	Bakery	604,3
Profit/ Expenditure %	Highest	1	Agricultural processing	200,0
		2	Other industry	188,3
		3	Trade	40,1
		4	Bakery	21,4
	Lowest	1	Agricultural processing	-81,3
		2	Other industry	-0,7
		3	Trade	0,8
		4	Bakery	9,0

As presented in Table 40 both the highest and the lowest profits are recorded in processing enterprises, in one case securing US$ 11,700 of profit, and in the other case having US$ 5,000 of losses. The "inconsistent behaviour" of firms in this sector may be explained by the following:

- A high dependence on agricultural products;
- Quantitative and structural changes in imported foodstuffs; and
- Greater competition.

In this regard, as the data shows bakeries are the most financially stable, due to the relative stability of wheat supply, demand and farmgate prices.

Table 41 Average net profits by type of enterprise

Type of enterprise	*Annual net profit (US$)*		*Profit / Expenditure (%)*	
	1999	*2000*	*1999*	*2000*
Co-operative	1280,7	644,8	12,6	7,4
LTD	1982,6	1848,5	5,8	4,8
CJSC	256,1	-650,6	5,4	-9,9
Individual proprietorship	463,7	550,4	14,5	15,9

Two of the three surveyed JSC's had losses in 2000, while among 16 LLC's and 8 co-operatives only one enterprise operated with losses, and all IP's achieved profits (see Table 41). The highest level of profits was recorded in individual proprietorships (15.9 percent). JSC's in Armenia were formed mainly as a result of the privatisation of former state enterprises, which is probably the reason for their poor performance. The survey could not determine whether or not the state has a share in JSC's. This would be useful information, as experience shows that the state's participation in partnerships often "contributes" to lower productivity.

6.7. Analysis: Profit, Employment, and Income

In addition to this overview of the characteristics of rural enterprises and the experiences of rural entrepreneurs, it is also useful to explore the determinants of enterprise performance. The modest size of the dataset obviously limits the scope for statistically valid inferences. Still, it is possible to go a little beyond description and explore the links between performance, factor endowments, and economic environment. Below we investigate possible determinants of profit and employment. Profit is a traditional enterprise performance indicator, while the capacity of rural enterprises to generate employment is an important factor in the development of the rural economy and the income level of the rural population.

6.7.1. *Profit*

A prime enterprise performance measure is profit. What determines firm profit in our sample? A simple profit model based on a Cobb-Douglass production function is specified. Independent variables include EMPLOY (total employment)[22], EXPEND (reported expenditures other than salaries), and CAPITAL (the reported value of the capital stock), as independent variables. The dependent variable is PROFIT, the reported level of profit[23]. All variables relate to the year 2000. The specification is double log, so that the (exponential) profit function is transformed into a linear regression equation[24]. The estimation results are presented in table 10.

Table 42 Table 10: An Estimated Profit Function

Dependent variable: ln(PROFIT)	*Standardised coefficient values*	*t-values*	*Significance*	*Adjusted R^2*
Independent variables (C = -3.401)				.81
Ln(EMPLOY)	0.298	3.201	0.003	
Ln(NONSALEX)	0.424	4.037	0.000	
Ln(CAPITAL)	0.360	3.666	0.001	

[22] The entrepreneur's (owner/manager) labour input in hours per week was divided by 50 in order to get full-time units. Spouse, family and non-family were recorded as one full-time unit (full-time employee and active partner), 0.5 (part-time or frequently helping out) or 0.25 (occasionally helping out) per person. Then all was added to get total labour input in full-time equivalents. Because many enterprises have less than one full-time equivalent of labour (resulting in negative log-values), EMPLOY was measures in tenths of full-time labour equivalents. Replacing employment by salaries as independent variable increasing the adjusted R^2 to .78, and gives a large (.403) and very significant (.001) coefficient estimate for ln(SALARIES). However, since SALARIES does not account for non-paid labour, EMPLOY is a better measure for labour input.

[23] The validity of this variable was checked by calculating gross margins on the basis of reported sales and revenues. Reported profit was always smaller than gross margins, and in the same order of magnitude. This supported the validity of reported profit. The distribution of ln(PROFIT) is skewed. Therefore 0.2 is raised to the power of ln(PROFIT). The resulting variable is approximately normally distributed and used in the linear regression estimation. This implies that the values of coefficient need to be transformed on order to show their impact on profit. Since we are interested only in the values of coefficients relative to each other, these results are not discussed.

[24] A drawback of taking logarithms is that negative and zero observations cannot be used, reducing the total number of observations in this estimation to 38. Excluding zero's also introduces an overestimation of the slope. The number of exclusions is however small, and so are these disadvantages. Also, the model fit is much better than simple linear specifications.

In this specification, coefficient values can be interpreted as measures for return to factor inputs[25]. It is interesting to note that capital expenditures generate the highest return, followed by capital stock and labour. This conforms to the general notion that capital is more productive than labour.

It was also earlier noted that most respondents are capital but not labour constrained. By implication, this constraint significantly hinders the generation of profit increases, which would derive more from investment than from labour additions. However, the credit constraint is likely to constrain employment indirectly, since capital investments may be accompanied by an increase in the labour force. This will be explored below.

Is the amount of input the only determinant of output? Many theories on firm production suggest the role of human capital, institutional and regional variables. On the basis of this production-model approach, a series of specifications introducing these factors was explored. However, none of these variables had coefficient estimates that had values comparable to the above; and none of the coefficient estimates was statistically significant ($p < .10$). It appears that the profit function of enterprises in the sample mainly contains the conventional factors of production (although this still leaves a fifth of profit variations unaccounted for). In exploring the impact of institutional and regional factors, one would therefore more usefully investigate their relation to the level and efficiency of factors of production, rather than their impact on profit levels directly.

6.7.2. Employment

Employment is not traditionally seen as an enterprise performance indicator. However, in the context of enterprises as potential motors of rural non-farm development, the idea is relevant. Enterprises that are able to generate more employment are more useful in combating unemployment and generating rural incomes. Here we explore the determinants of employment in our sample. Table 43 presents four relevant variables that appeared to explain most of the variation in employment levels in an ordinary least squared (OLS) regression estimation. These are RETAIL (the share of enterprise output sold in to households and individuals, rather than to enterprises), BANKLOAN (a binary variable indicting whether the enterprise has obtained a loan in the last 5 years), CAPITAL, and EXPEND.

Table 43 Factors controlling employment level

Dependent variable: EMPLOY	*Standardised coefficient values*	*t-values*	*Significance*	*Adjusted R^2*
Independent variables (C = 4.314)				.86
RETAIL	-0.137	-2.192	0.036	
BANKLOAN	0.133	2.107	0.043	
EXPEND	-0.123	-4.104	0.000	
CAPITAL	2.092	6.992	0.000	

[25] Because the coefficients are standardized and differences in value between them are significant, their values can be meaningfully compared.

The largest coefficient estimate is associated with the amount of capital goods. Thus, we found that the constraint on finances to invest in capital may also be a major barrier to employment expansion, as was suggested above. It may be noted that this is in line with respondents' own replies, although in an indirect manner. Most of them reported that they would use extra funds for investment rather than employment. The estimation results suggest that via investment extra employment would be generated.

Respondents' access to credit over the last five years is also associated with higher employment, although less clearly than in the case of capital stock. This appears to lend some support to the prominence of credit allocation in thinking and research on rural development (see e.g. Heidhues *et al*, 1999 for an application to transition economies). It should however be noted that the causality here can also run the other way, since larger enterprises with more employment often have better access to credit for reasons of political economy.

Other, but clearly less important determinants are negative. They include the level of expenditure on flexible inputs (which are apparently substitutes for labour), and the sector: retail enterprises employ fewer people than other enterprises. We have observed that most enterprises sell to individuals and customers. This is in line with the general prevalence of small retail and services businesses in the private sector in transition economies. Clearly this feature of the non-agricultural private economy in Armenia, and plausibly elsewhere, limits the scope for employment creation.

6.7.3. Employment, Income and Enterprise Size: A Regional Exploration

It is useful to note that some variables in the sample did not appear to influence employment levels, although they might have been expected to. This includes the size of the enterprise in terms of revenue or profit level. This finding is in line with the large variation in capital intensity and associated labour intensity over firms in the sample. While the above results show the link between, particularly, capital investments and employment, earlier findings suggest there are large differences in the strength of this link over regions and sectors in the rural economy.

It was not possible to explore this using regression analysis because of the small size of the sample. As an alternative method of exploration, the average of the ratio of employment over capital stock, non-salary expenditures, revenue level, and profit was computed for each region. Apart from employment, the same was done with the variables 'income' and 'total salaries' in the nominator of the ratio. In the end, for each region 12 ratios were calculated, i.e. all combinations of employment, income, and salaries in the nominator and capital stock, non-salary expenditures, profit, and sales in the denominator.

The limited size of the sample did not allow significant differences between most ratios in comparisons over the regions. The only significant differences were in three ratios: of employment over revenues, of entrepreneurial income over capital stock, and of income over non-salary expenditures. Differences between these ratios in comparisons of the regions Gegharkunik and Ararat were not significant. In comparisons of the regions Syunik and Ararat, as well as Syunik and Gegharkunik, there were significant differences. These findings are presented in Table 44 and Table 45.

Table 44 Regional differences in employment & income relative to capital & revenue level

	Regions			
	Syunik	*Gegharkunik*	*Ararat*	*Whole sample*
Employment divided by sales	0.39	0.90	0.51	0.61
Income divided by Capital stock	0.61	1.76	1.62	1.32
Income divided by Non-salary expenditures	2.81	9.14	2.60	4.90

Table 45 Significance of differences in Table 44 (only reported if less than 0.05)

Comparisons / *Ratios*	*Syunik and Gegharkunik*	*Gegharkunik and Ararat*	*Syunik and Ararat*
Employment divided by sales	0.0002	-	0.0328
Income divided by Capital stock	0.0007	-	-
Income divided by Non-salary expenditures	0.0045	-	0.0035

These findings must be seen as tentative given the nature of the data, and can be summarised as follows. First, enterprises in Syunik are less labour-intensive and generate less income per unit of capital goods than in the other two regions. Second, enterprises in Gegharkunik generate more income relative to expenditures than enterprises in Syunik and Ararat (although this last observation is not supported by statistical significance).

One implication appears to be that growth of the rural non-farm economy in Gegharkunik in terms of revenue, capital stock, or in terms of capital expenditures, would result in a larger increase in income and employment than is the case in Syunik (and probably also Ararat). Although the small sample size makes this sort of inference difficult, the results are indicative for the relevance of enterprise structures for the income and employment effects of rural economic development.

6.8. Summary, problems and prospects for development

A generalisable finding from this section of the report appears to be that public investment (in education, in the quality of infrastructure, and in market structures) is an important determinant of the capacity for rural growth.

Two stages in rural economic growth are discerned. In one, rural non-agricultural incomes are a refuge from poverty, and rural diversification a defensive strategy that implies a shift to low-return activities in order to preserve household income, generally without achieving local economic growth. This description applies to Armenia but also generally to most CIS and Balkan countries. Most Central European countries have entered the other, and subsequent, stage. Here rural manufacturing, trade, and services are a response to new market opportunities, generate higher returns than agricultural production, and signify genuine rural economic growth.

Although the rural non-agricultural sector in transition countries has been found to be substantial, the above observations on Armenia indicate that the significance, in economic terms, of the sector is not unambiguous. The non-farm rural economy is strongly agriculture-related, mainly through processing but also by providing inputs. The policy question is not what the trade-off between agricultural and non-agricultural employment and incomes is, but rather how enterprises in the non-agricultural part of agri-food sector can be supported. Second, rural non-farm enterprises vary greatly in size as measured in revenue levels. Polices designed to support them should be accordingly flexible.

This is further explored in our analysis of the survey data on non-farm enterprises in rural Armenia. The main findings may be summarised as follows:

- The majority of surveyed enterprises are specialised, profit-oriented businesses providing a full income to the entrepreneur and employees.
- The capacity for salaried employment is limited per enterprise to a few employees; but in many cases entrepreneurial income sustains people in and beyond the entrepreneur's (owner/manager) household though unpaid labour
- There are very large variations in the financial features of enterprises, including cost, revenue, and profit levels
- There are strong links with the agricultural sector through food processing or trade in food products.
- Marketing channels are generally in the local economy and small-scale, with most firms in retail.
- Liquidity and capital constraints are general, and the most important constraint to enterprise expansion (or in some cases indeed operation), is access to credit.
- The role of public institutions in business support appears very limited, although there is much to be improved in factors that are usually in the domain of public action, such as legal safety and the quality of infrastructure.

The survey data are also used to undertake some basic explorations of the determinants of profit, employment, and incomes generated by the surveyed non-farm enterprises. Profit levels are satisfactorily explained by conventional inputs: labour, fixed capital, and inputs. Of these, employment is of special interest from a rural

development point of view. It appears that the size of the labour force, though modest in all cases, is linked to the level of fixed capital and access to credit. It is also negatively associated with the share of retail sales, and with capital input expenditures.

There appear to be important regional differences in the relationship between employment and income on the one hand, and businesses' capital stock and levels of revenues and expenditure on the other. This confirms the theory that expansion of the rural non-farm economy is likely to have very different implications for rural employment and rural incomes in different regions.

The most common forms of organisation of rural non-farm enterprises are limited liability companies and individual proprietorships, followed by co-operatives and partnerships. The most widespread activity is trade, followed by other production, processing and bakeries.

75 percent of non-farm enterprises were formed in the four-year period between 1997-2000. Enterprises are very small, on average there are 5.2 standard full time employees per enterprise. According to the Act No. HO-121 adopted by the National Assembly on 5.12.2000, among the 45 surveyed enterprises 37 are classified as micro- and 8 are small enterprises.

The cost/benefit coefficient of non-farm enterprises depends on the type of activity and form of organisation. The riskiest activity appears to be food processing whilst running a bakery is the most stable. In terms of organisational form the cost/benefit coefficient is highest among individual proprietorships and limited liability companies, and lowest for JSC's.

Credit is mainly provided to relatively large enterprises, since they have liquid collateral. Increasingly younger people with a high level of education are becoming non-farm enterprise owners. Those with a lower level of education prefer to do business as individual proprietors with a preference for trading activities. In enterprises managed by entrepreneurs/ owners having higher education the turnover per standard full-time employee is 2-3 times higher than in firms with less educated managers.

In terms of organisational form, LLC's have the highest and JSC's the lowest workforce productivity. When classified in terms of activity enterprises involved in 'other industry' has the highest and those providing public services the lowest productivity.

The majority of clients are domestic clients, within a 50 km distance. Only one enterprise sells 5 percent of its products abroad (CIS). Only one enterprise has suppliers from other countries (EU), which account for 26 percent of the firm's procurement. There is also a long average distance from extension services (37.4 km), which may be important because of the "young" age of businesses, and the owner/ managers general lack of experience in doing business in a market economy.

The most important local factor hindering the activities of businesses is poor infrastructure (road, rail and telecommunications links), which was rated as

unsatisfactory by 55.8 percent of respondents. The level of legal protection is also very low and was rated as unsatisfactory by 67 percent of respondents.

Individual proprietorships and limited liability companies are optimistic about their short-term perspectives. The most promising activity is considered to be trade. About 75% of the surveyed enterprises want to expand their businesses, for which the shortage of capital and lack of access to it appear to be significant constraints on their development.

Credit repayment guarantees are very important in transition economies, where all activities have high risks. For this reason collateral plays a key role in credit provision. Collateral has two functions in transition economies: a) it is a guarantee for the creditor in case of insolvency on the part of the credit receiver; b) evaluates the capacity for repaying the credit and is an incentive for repaying the credit. Creditors try to overcome this problem by using the following substitutes for collateral: signing agreements, third party guarantee, belongings and equipment with a value equal to the amount of the credit, threat of being barred from future credit access/ applications and public sanctions.

Credit programmes without collateral requirements should be developed in Armenia in order to overcome the shortage of collateral. Credit clubs, already established in Armenia in some form, can play an important role in this regard. The Agricultural Co-operation Bank of Armenia (ACBA) has established rural co-operation clubs, which have a collective responsibility for repaying credit. The club selects those members, who will receive credits and the amounts of credits, and if any member does not repay the debt, the entire club will lose the right to receive credit in the future. The UMCOR Armenia office also has similar programmes. Currently, the National Assembly is in the process of adopting the Credit Club Act.

7. Strategy for rural non-farm employment in Armenia

7.1. Potential problems and constraints to non-farm employment and rural development

The key problems and constraints to non-farm employment include the following factors:

Excessive rural labour market stress due to:

- The slow expansion of the private sector which could absorb the excess labour
- The low formal qualifications and high average age of the agricultural labour force
- The high market transaction costs for goods, services and production factors
- High levels of hidden unemployment and unskilled middle-aged workers

Under-investment since transition in rural infrastructure:

- A gap between rural and urban areas in terms of the quality and utility of infrastructure, markets, institutional and informational facilities make it harder for certain IGAs and types of employment or enterprise to be developed in rural areas.
- However, a minimum level of infrastructure is necessary for RNFE activities to develop and thrive (roads, electricity, gas etc.)
- Central government transfers and external donor support could still play a key role in less favoured rural municipalities.
- The transparent and competitive privatisation of Armenia's four state owned electricity distribution companies could help improve the situation of under investment in utilities and improve service provision to rural populations

Lack of opportunities on-farm:

- Increasing scarcity of arable land and decreasing access to fertile land
- Declining farm productivity
- Declining returns to farming
- Lack of access to farm input markets
- Decline of the natural resource base
- Temporary events and shocks such as droughts and earthquakes
- Absence or lack of access to rural financial markets

Significant constraints on rural non-farm SME and MSME development

- A lack of capital to start a small business
- Corruption and informal market entry barriers
- A lack of social capital to access resources and markets
- Weak informal networks of kinship and influence important in accessing resources and markets for the rural poor. However, social capital is vital in accessing employment opportunities in Armenia.
- A lack of informational infrastructure – limited information on regional prices, markets etc..
- Lack of MSME managerial know-how or training
- Lack of an enabling environment
- Lack of land market
- Economic blockade – lack of long-term resolution of Nagorno-Karabakh dispute

7.2. Strategy Options

7.2.1. Generic strategies and policies

Since the non-agricultural rural economy is heterogeneous and the conditions differ by marz and village, there is no policy blueprint and no 'one size fits all' solution. Specific interventions have to be based on sound analysis of local conditions and options. For example, tourism or high-value exports may offer opportunities for certain areas and not for others. For the next decade, Armenia will have to depend upon the agricultural sector, not only for its food supplies, but also as the principal source of income and employment for its declining rural population. Thus, while other sectors can be expected to contribute a growing proportion of national income, the immediate priority for most rural dwellers must be to increase non-agricultural income, and where possible improve agricultural productivity. The importance of non-farm activities in the Armenian rural economy is due to the following reasons:

Under the conditions of the transition period the share of the employed in the rural areas has greatly increased, which is presently more than 43% against 17.7% in 1990. However the labour potential is not used fully and equally. The share of the employed in the agricultural sector during the whole year comprises 36.1%, the overwhelming part of which (40%) are those who are employed only 7-9 months. That is why it is important to increase efficiency of the labour use as by the enhancement of the production capacities in the agricultural sector and through the creation of jobs in other sectors of the rural areas. A sizeable proportion of the Armenian population still live in rural areas. Rural households commonly depend on agriculture, but non-farm income sources for some communities comprise 10-30% of their income. Approximately 37% of the surveyed sample (NSS sample size of 15,892; 2001) had some RNFE full-time or secondary occupation:

- *Farming only* *63.5%*
- *Farming primary & NFRE secondary* *8.4%*
- *NFRE only* *25.2%*
- *NFRE primary & farming secondary* *2.9%*

Those non-farm jobs and income generating activities associated with different income groups in Armenia include:

Activities tending to be associated with different wealth/well-being categories			
← *Very poor/poor*		*Middle-class/rich* →	
Rank		Rank	
1	Labouring	1	Selling/trading (food products, agric. services)
2	Day work	2	Shop-keeping (grocers, bakery, bar)
3	Farm work	3	Salaried work
4	Sell/ hawking of own-farm produce	4	Food processing
5	Handicrafts	5	More specialisation – especially in farm-based or agricultural trading activities
		6	Small manufacturing, e.g. furniture making

In Armenia the RNFE plays an increased role for the rural economy in livelihood strategies of the rural poor where non-farm remittances account for 10-18% of average household income. Although the agricultural sector remains largely unable to

absorb excess rural labour, which has resulted in mass subsistence farming and increased migration. As a result of the restitution process, most labour resources are devoted to working small plots of land although other activities might be more remunerative. Nonetheless rural poverty in Armenia is deepening and has led to a proliferation of low-profit and informal non-farm IGAs (mainly as a survival strategy). Table 46 summarises the key findings and interventions to address the problems outlined in Section 7.1 which will be discussed below.

Table 46 Access to RNF employment: policy and intervention

Issue	*Policy*	*Direct Intervention*
Heterogeneity	Limits scope to prescribe with specificity and wide relevance	Participatory and demand-led approaches
Infrastructure	Support infrastructure that improves both RNF access and opportunities	Roads Telecommunications Information technology Railways
Pro-poor focus	Evaluate policy against poverty criteria and correct for biases (e.g. against poor, women, rural areas). Objective is "growth with equity".	Application of best practice in pro-poor service delivery (in private and public sectors). Link safety nets to access to future income.
Enabling environment	Be supportive of informal sector	Provide services to informal sector
Social networks	Recognise the role of social networks – avoid policy which undermines them inadvertently	Incorporate into business development and training programmes
Financial services	Policy which promotes financial deepening and coverage in rural areas.	Develop pro-poor financial services (provide savings mechanisms and application of best practice in lending to the poor)
Decentralisation of government	Allow local level development of RNF employment policy	Work through local/marz level government or other umbrella institutions
Education	Develop relevant education, training and re-training programmes for the unemployed	Provide for poor people's access to education

7.2.2. Employment, education and training

Our surveys in Armenia show that education and the lack of working capital are key elements for non-farm MSME development and entrepreneurship. Besides development obstacles that may be associated with access constraints due to a lack of financial, social and human capital, there are other infrastructural, communication and institutional bottlenecks. As a result, most donors and NGOs have placed great emphasis on SME and microfinance development at the core of their non-farm rural employment interventions in Armenia.

In Armenia, despite some progress with the development of a number of business assistance programs, there has been a piecemeal approach to the development of an integrated rural development strategy and a lack of awareness of the potential of the role of SMEs in promoting economic development. Technical assistance in terms of adequate extension and consulting services which support MSME development and diversified (income generating) non-farm activities both regionally and nationally needs to be developed. We propose that some of the following policies and institutions be established in Armenia as part of an integrated rural development and employment program (e.g. training courses for IT and enterprise related skills, rural business development and training consultants nationwide) should be adopted by

Armenian authorities. Armenia has a largely undeveloped regional advisory, employment and information service centre network which needs to be urgently developed. Armenia also has quite significant regional differences.

As a result of the focus groups and surveys conducted for this report, the following recommendations on employment, education and training can be proposed:

Institutional Recommendations
In the *long-run*, future rural employment programmes, policies or interventions need to focus on strengthening the GoA's institutional capacity to address the social implications of the transition to a market economy. This is vital for the largely marginalised rural communities of Armenia.

In the *medium-term*, we would envisage the establishment of an effective and motivated government administration capable of providing relevant services in the field of labour and employment in rural areas. This is not being effectively done in Armenia.

In the *short-term*, or more *immediately*, the governments and donor community need to develop the GoA's institutional capacity to efficiently and effectively: (i) develop a policy framework specifically aimed at rural labour market and employment issues which is supported by legislative acts; and (ii) organise, provide and finance through the GoA's existing Employment Service Organisations a series of targeted services in the field of rural labour and employment. These services should/could focus on job counselling (building up local confidence in the efficacy of these institutions), the organisation and implementation of (re-) training programmes and employment schemes, and the development of relevant labour policies within the context of a market oriented transition economy.

There is a need for greater policy advice with a concentration on the analysis of:
- Existing labour and employment policies to better reflect rural labour market dynamics
- The organisational and financial management structures of the employment service institutions at the central and regional level in both countries
- The financing of the employment service and contributions made from the social insurance funds and employment funds, especially in Romania.

Legislative recommendations
In Armenia, there needs to be a reassessment of the existing labour codes and employment services legislation so that better access to employment in rural areas is achieved by the development of schemes which are more appropriate to their needs and better reflect their capabilities (given educational and skill levels) and constraints (in terms of distance, transportation etc., to utilise employment services). The GoA may need technical assistance, or advice in drafting future rural employment laws.

Employment service management and administration
These services are poorly delivered to rural communities in Armenia. We would propose practical assistance to the implementation of modified or new administrative structures and the procedures for data collection, funds collection and payment to rural employment benefit and social welfare fund recipients. This may require a

detailed and thorough SWOT analysis. In addition, the GoA should consider improved means/development of communication channels to rural stakeholders – perhaps through the implementation of periodic publicity campaigns, workshops etc.

Active measures to promote non-farm rural employment
For most transition economies, including Armenia, a top priority will be to implement measures which cost almost nothing to introduce. This in the short-term needs to be encouraged. We would propose the following:

- Greater labour market information (at a regional level) leading to counselling (e.g. Job Clubs)
- Work experience (particularly targeted at school-leavers)
- Vocational training especially in computing, tourism and services – also in terms of improved job-hunting skills, transferable skills and skills training or the long-term unemployed
- SME training especially in self-employment
- Paid public works
- Support for seasonal work
- Encouraging geographical mobility (computerisation will help)
- Create credit schemes appropriate to individual communities, with an emphasis on low-cost operations managed by local stakeholders.
- Develop local leadership skills as a key aspect of RNFE programmes.
- Build on existing social and community networks.
- Support for marketing training and market development, including market research

Our surveyed entrepreneurs appear to have been motivated to enter the non-farm sector for mainly *distress-push* reasons. In Armenia, the structure of the farm sector may constrain the formation of non-farm enterprises. Similarly, the future demand for RNFE activity products and services depends on the degree of participation of local communities, regional authorities and GoA in the organisation of non-farm work and services. In Armenia, the lack of available skilled labour (particularly in "traditional" rural areas), as well as capital appears to be a constraint on their RNFE entrepreneurial activities. Those RNF activities, which may have a good chance of commercial survival, include agro-tourism, agri-food processing, fish processing, (increasingly) direct marketing, and the tendering out of public utility services (as these remain state owned).

7.2.3. Policy & institutional environment conducive to RNFE development

The permanent settlement of the Nagorno-Karabakh dispute is an important hindrance to trade and investment, and progress in resolving this dispute could lead to an opening of Armenia's borders and significantly improve the country's prospects for economic growth. It is also important that biases at the economic policy level be removed (i.e. distortions in capital markets caused by government intervention in interest rates. Effectively functioning markets will provide the correct signals to encourage investment and specialism in areas of comparative advantage, will encourage the development of the private farm and non-farm sectors, and will encourage the efficient and realistic allocation of financial resources. Incentive-distorting measures that have been implemented to support the rural economy should be removed, except perhaps where it can be shown to be compensating for past deficiencies that have impeded growth in key economic areas. With respect to the

remoter rural areas, policy reforms are needed to encourage mobility, promote efficient rural markets, and better target social assistance.

The lack of adequate social safety nets, infrastructure, and suitable education opportunities in remote rural areas are clearly areas in which increased investment and attention is needed. This will help promote the development of the RNFE and the private sector, and over time redress the imbalance between urban and rural areas. Also, attention should be paid to the type of employment creation being promoted in the rural non-farm economy, i.e. low-skilled and relatively poorly paid, or more highly-skilled and specialised jobs.

Factors acting as a constraint to the development of the private farm sector, such as poorly developed or inefficiently functioning financial markets and lack of marketing information, should be recognised as also affecting the growth of the non-farm sector. Rural financial service provision is key to both the farm and non-farm sector, and it may be that a healthy non-farm sector attracts financial service providers who would otherwise have been put off by the increased risks and expense of agricultural credit.

The provision of public services and infrastructure to rural areas is key to attracting investment and promoting SME development. Population centres in rural areas can constitute key growth points. Incentives such as business start-up assistance for diversification of economic activities should be available for a range of rural businesses (usually SMEs). SMEs and small farms should also receive priority in publicly funded agricultural research, extension and in marketing and credit supply.

Barriers to entry to employment in the RNFE need to be addressed. In our surveys we found that access to strong social and political networks were vital in accessing jobs or starting a SME. Vocational training improvements should be utilised to assist those within agriculture to shift to other jobs or in the case of children from farms to have sufficient skills to avoid having to enter the agricultural sector.

Equity considerations logically imply the full participation of poorer people in rural policy formulation processes. They need to be consulted on the priorities for public investments from which they are expected to benefit or through taxation help finance. It is therefore important that methods are used or developed whereby this participation is facilitated both prior to a non-farm rural development project and through subsequent evaluations of it.

Institutional reconstruction to mitigate market and government failures and complement opportunities offered by the market and the state, is needed. However it should be noted that institutional change takes time and cannot be implemented in an abrupt way. RNFE development strategies should not only provide incentives for the rural population to engage in profitable non-farm rural employment activities but should also be based on a consensus among interest groups involved in or by the reform process. Consensus and credibility help form a strong base for successful reforms.

7.2.4. Decentralisation of Government

Decentralisation of government functions to the district level is key to facilitating responsiveness in decision-making to specific local conditions, and thereby helping

ensure better distributional characteristics. Decentralised decision-making may indeed be necessary due to the heterogeneity of the rural non-farm sector providing little scope for general broad policy descriptions. However, in Armenia this process must be accompanied by capacity building of local government, local-level democratisation, and the transfer of fund-raising powers from the centre. In Armenia, local governments are still vulnerable to capture, do not have access to adequate local financing sources and there are no inter-jurisdictional externalities in service provision. A potential entry point here may be that donors such as the World Bank, UNDP or IMF set-up municipal debt markets or finance municipal authorities for a fixed period of time to improve local capacity building and better direct local resources to address development needs.

7.2.5. Support to the private sector

We highlight the need for an enabling environment/ framework comprising at least four strategic considerations:

- The main thrust for rural poverty alleviation is broad-based growth led by the private sector in a manner in which the poor are the main beneficiaries in their capacities as consumers, farmers, workers and small entrepreneurs.
- The rural non-farm economy can in interaction with agriculture, significantly contribute to growth and poverty alleviation.
- Non-farm private-sector activity requires a supportive business environment, a catalytic public sector and the participation of stakeholders in decision-making, if it is to realise its potential.
- The private sector is in the driving seat in most aspects of private-sector development, and markets provide the vehicle.

Proposed interventions should focus on:

1. Improving conditions for private investment and better functioning of markets by helping to overcome market failure caused by lack of public goods, externalities, market power and economies of scale, asymmetric information and costs of establishing and enforcing agreements;
2. Promoting market solutions where it is efficient and effective for poverty alleviation;
3. Providing assets to the poor, empowering them to participate in the RNFE and markets in ways gainful to them, and helping them to manage their risks.

*Interventions could therefore enhance the following **outcomes**:*

- The availability and quality of food and other consumer goods at low prices;
- Availability of and access to gainful employment, in particular for the poor;
- Availability of reliable inputs at low prices to farmers and other entrepreneurs;
- Access to services provided by private entities, such as insurance and finance; and
- Availability of profitable market outlets for agricultural and other products.

Motors of RNFE growth

An (economic) "motor" is an economic activity that creates growing demand for other economic activities, by two routes: (1) it raises incomes which then are the source of growing consumer demand for the products of the other activities; (2) it creates derived demand on the input (upstream) side for inputs to it from other activities, and creates derived demand for processing and commerce downstream from it. In

Armenia, the key motors of RNFE growth are the agricultural sector (agri-food processing) and Lake Sevan (fishing industry, processing, marketing etc.).

7.2.6. Support to microenterprises and SMEs

As most support initiatives tend to be focused on larger SMEs by key donors (e.g. DAI – USAID) we think that more attention should be paid towards the emergent MSMEs for the following reasons:

- In order to promote smaller enterprises:
- Promotion of enterprise clustering
- Work with NGOs, entrepreneur associations, and private firms
- Avoid high cost service provision structures
- Standardised services provided to larger numbers
- Offer demand-responsive services, with affordable pricing structures
- Legal and judicial system that supports low-cost contract enforcement, and reinforces transactions and payment mechanisms
- Promoting a socio-cultural context that values entrepreneurship
- Assisting informal sector enterprises to formalise through the reduction of red-tape, stronger juridical contract enforcement procedures which reduce corruption
- Develop a level policy 'playing field' for small and large enterprises

As access to adequate sources of credit is often an impediment to developing non-farm enterprise opportunities we would propose the following policy interventions:

- Reduction of biases towards agricultural credit
- Encourage land consolidation
- Development of land registries, land markets, and mortgage procedures
- Technical assistance to rural cooperatives and other non-bank entities to develop microfinance
- Revisions of financial sector regulations
- Strengthening of banking supervisory agencies
- Assisting banks to install international payment systems in rural branches to facilitate remittances and transfer payments
- Strengthening of court system to speed up default and debt collection proceedings
- Development of leasing laws
- Need to develop bottom-up approaches to rural savings mobilisation

On the basis of our assessment through the commissioned fieldwork and surveys and forecasted social impact, microfinance should be recognized as a powerful tool to fight the poverty and should be incorporated into the Armenian poverty reduction strategy paper (PRSP).

Armenia's microfinance system lacks a strategic framework for development, since the main source of funds of the existing MFIs is donors with more "occasional" rather than long-term approach. Several of the microfinance institutions we interviewed (Shen NGO, USAID et. al.,) proposed the creation of a National Program on Microfinance Development (NPMD), which would complement the PRSP and other national poverty reduction initiatives in the country. It would: i) determine sectoral and other priorities for microfinance; ii) introduce clear differentiation between credit

programs where the government support is justified and conventional commercial oriented programs; iii) incorporate necessary amendments to the existing legislation; iv) set out long-term social targets for donor-funded non-commercial projects; v) introduce tax and other privileges for social-oriented microfinance programs; and vi) promote creation of privately-owned microfinance and their integration into donor-supported microfinance society etc. Adopting and adhering to the NPMD will significantly increase effectiveness of donor efforts in reduction of poverty and the promotion of rural non-farm employment in Armenia.

Once again, the legal constraints for the development of MSME microfinance services should be examined and analyzed, and a package of facilitating amendments should be proposed for the NPMD. Also, we were struck by the proliferation of microfinance schemes and players across Armenia. Deeper cooperation between different players/microfinance institutions should be promoted on both formal and informal levels. A registry of microfinance institutions and database of clients (credit bureau) should be established for the non-bank financial sector to avoid problems provoked by lack of information on the client's credit history. Ideally, the credit bureau for microfinance institutions should be incorporated into the one currently established for commercial banks, with reciprocal access of commercial banks and microfinance institutions to the database.

The government needs to enhance and develop a broad range of measures to strengthen the environment of private investment, especially in SMEs and MSMEs. Our surveys show that the GoA's state institutions remain weak both in juridical and administrative procedures regarding corruption and legal safety through sound contract law enforcement. The RNF entrepreneurs in our survey complained about the predominance of legal "red-tape", cumbersome administrative regulations unclear regulation and their exposure to corrupt state and private individuals. An improved legal and regulatory environment for enterprise creation and growth will be essential for future job creation in Armenia. Also a more focused and determined effort to encourage FDI, which will improve the business environment, needs to be implemented.

7.2.7. Strengthening Civil Society and Promoting Community Participation

Programs attempting to address rural poverty, encourage local participation in the rural non-farm economy, engage women, and have a sustainable impact, should consider the following points:

- The promotion of active civil society
- Involvement of community representatives and civil society groups in the design and management of projects
- Promotion of women's involvement in community based organizations (CBOs) and projects promoting RNF employment
- Participatory methodologies should take into account the power differential and competing among villagers and between men and women
- Since extensive kinship networks constitute an important resource, lack thereof (for example, in villages with large refugee populations) is one criteria of poverty
- Limited access to information contributes to and results from poverty and isolation; it will be important to practice information-sharing and transparency as an example of what (ideally) takes place in a civil society

To engage women, it may be necessary to focus certain projects on women (for example, micro-credit for traditionally gender-specific income-generating activities) with women setting priorities, proposing solutions, and controlling the project, or to actively encourage women to participate in agricultural extension courses or training to work in credit unions.

Any program designed to improve agricultural practice, raise the standard of living, and most important, encourage participation in long-term as well as short-term activities benefiting the entire community will confront decades of socialization, in which Armenians learned that initiative comes from the top, and that activism carries political risks. Programs which encourage information-sharing and transparency have to overcome the long-standing perception of knowledge as a valuable resource to be husbanded rather than shared. Efforts to encourage open procurement and hiring practices will confront a long-standing political preference for working through networks, a preference buttressed by the strong cultural belief that duty to kin takes moral precedence over duty to an abstract "community." Consistency, patience, sensitivity to genuine cultural difference, and long-term commitment will determine the success or failure of community development in Armenia.

7.3. Scenario on influences of greater HH participation in the RNFE

7.3.1. Considerations

First it is important to set the scenario context. The market share of the average Armenian farms is at a low level and does not exceed 60.4%. It is conditioned by significant difficulties in selling products, which is affected by the following factors: remote location from sizable markets or settlements, high costs of transportation, lack of infrastructure for dealing with the sales of products, poor and inefficient operation of the processing industry, low income of population, and a general lack of demand for most locally produced goods due to rural poverty. The present situation may be improved through land consolidation, establishment and operation of the selling-exporting infrastructures, improvement of the products' appearance, the support of export activities, re-equipping of the processing industries, establishment of SMEs and manufacturers to cover the demands of the local and external market. It is necessary to develop non-traditional branches of the agricultural sector and non-farm income generating activities, which are highly required both at the local and external markets. It is vital that the GoA views the rural space not simply as the agricultural sector, but as a broader space for multifarious economic activities. In order to assist the GoAs strategy development for rural non-farm employment, we have developed a schematic diagram that identifies the key factors which we have identified as being central to rural non-farm economic development and employment in Armenia (see Table 47).

The RNFE may be thought of as existing at different levels of aggregation: from the micro-level of the individual, enterprise or village, through progressively larger geographical units, to the international level. At each of these levels, the RNFE is the sum of individual non-farm rural economic activities plus unearned income. Just as the RNFE can be conceptualised at different levels, so too can the context within which it operates and the influences on it. Table 47 provides examples of key influences on the RNFE within the interacting but conceptually distinct "strata" of policy; formal institutions; shocks, trends and seasonality; and the social/cultural context of Armenia.

Interactions take place along the *horizontal* axis in the table. These are interactions over physical space and time. Interactions also take place along the *vertical* axis, e.g. between a change in policy and the social and cultural context.

Horizontal (micro-macro) linkages

The boxes in Table 47 are examples of key influences on the Armenian RNFE at different levels of aggregation. The boxes are best seen as examples of where – in terms of the level of activity aggregation – different forces have an initial "first-round" impact on the RNFE. This two-dimensional figure can only demonstrate different 'entry points' for external factors that influence the RNFE, however, the impact of such policies, shocks, or trends, are likely to be felt directly or indirectly at several levels through micro-macro linkages. The impact of some factors is quite specific in the sense that they have an immediate or first-round effect on one particular aspect of the economy. An idiosyncratic shock at the household or individual level (e.g. accidental death of a key income earner) would be an example of this. Thus, the first-round effect would be specific perhaps to the household in

question, but subsequent effects may be more generalised if, for example, the person who died was the teacher at a village school. These idiosyncratic first-round effects are to be contrasted with more generalised effects that for example might arise from a regional or national drought.

Vertical linkages

An example of a "vertical interaction" would be that between a rural roads policy which resulted in the rapid expansion of a road network in a particular region with a social and cultural context in which one gender is by tradition or culture more geographically mobile than the other. This interaction might exacerbate gendered disparities in access to the RNFE and thus affect the development of the RNFE in a particular area.

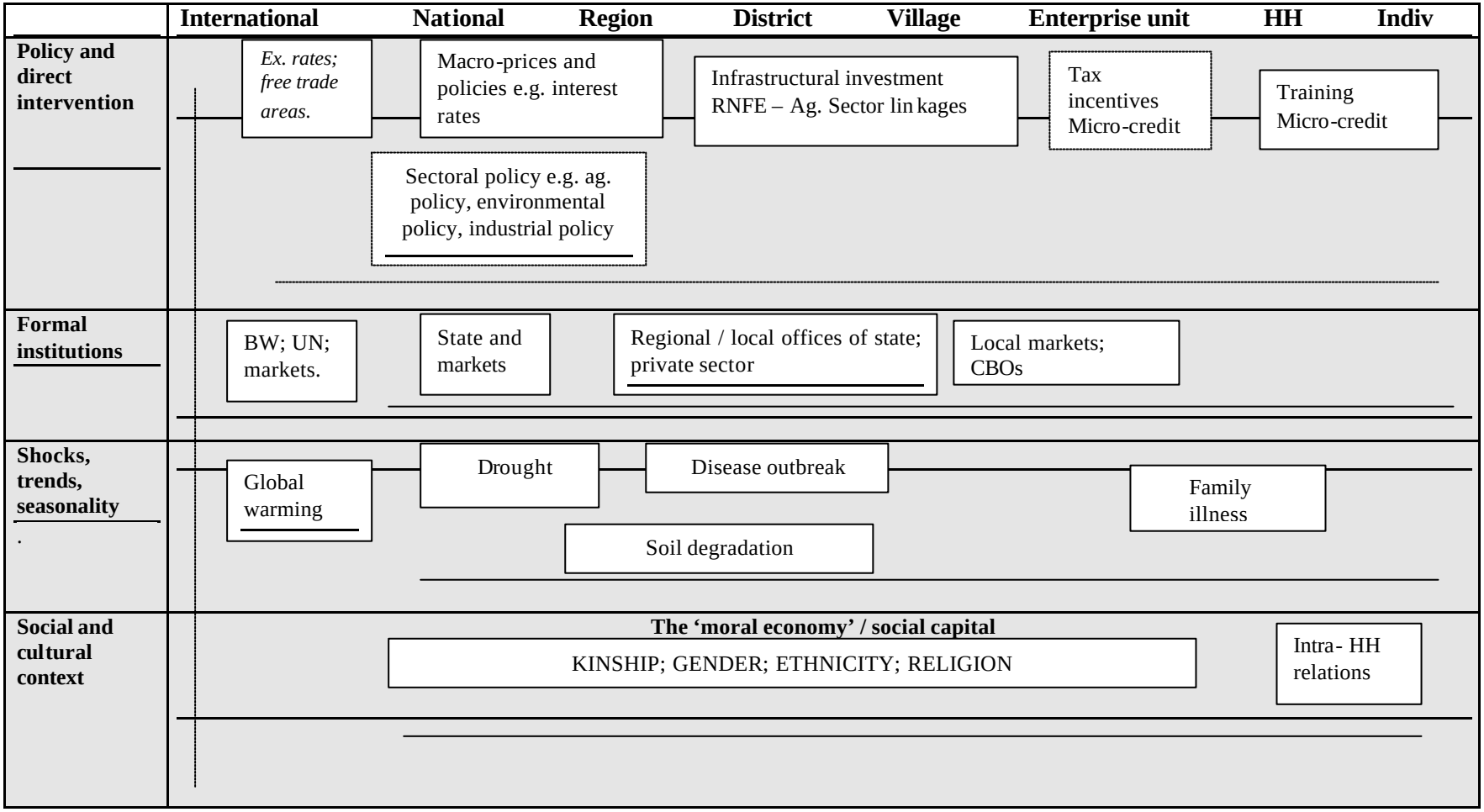
Examples of linkages

Examples of vertical and horizontal linkages and interactions are not difficult to find. In China in the early 1980s, a combination of macroeconomic shifts, local government decentralisation, de-collectivisation of farming and higher procurement prices allowed a rapid expansion of agricultural output. A dramatic expansion in small-scale industry and commerce followed from the consequent rise in incomes (driving consumer demand and house-building) and the availability of surplus capital retained in the localities. The most striking growth was in the coastal provinces, which also benefited from the newly-permitted influx of foreign investment.

Knock-on effects may be negative too. Legislation to improve working conditions may push up costs, depriving the poor of employment, or shifting market share towards larger companies with more rigid recruitment policies that exclude the less educated (and poor).

This report on Armenia underlines the role of such complex interactions. For example, the gains from education depend not only on the extent to which a person's productivity is raised by education, but also by the interaction with many well-educated people (a positive externality). Here productivity growth as well as capital formation (real and human capital) are both critical to the achievement of high rates of growth in per capita GNP and thus sustainable livelihoods.

Table 47 Factors that influence the development of the RNFE



Key: BW = Bretton Woods Institutions; CBOs = Community Based Organisations.

7.3.2. Policy interventions and the RNFE

The previous section demonstrated some of the scale and definitional issues involved in conceptualising the RNFE, and showed how it is susceptible to a wide variety of trends, shocks and processes (both intended and unintended) underway in the wider political economy. Within this complexity, a key question is: what are the critical policy levers for virtuous (pro-poor, environmentally non-damaging, gender sensitive) RNFE growth? One way to characterise the range of policy alternatives is to identify potential policy entry points available to the GoA. Conceptually, we have proposed a continuum stretching from the "macro" of the overall economy to the "micro" of community, household and individual. Using this classification, policies at each level could include:

Macro-economic policy

- Policies to foster geographically specific investment, either local reinvestment or outside investment
- Policies designed to exploit and strengthen beneficial upstream and downstream linkages between the RNFE and the agricultural sector
- Specific policies designed to maximise sustainable remunerative waged or self-employment of poor individuals in the RNFE.

In Armenia, the upstream and downstream linkages between agriculture and the RNFE are very important. Much of this report has highlighted the pivotal role of the agricultural sector as the key driver of growth in the Armenian rural economy, with the strongest linkages often through processing and consumption effects. Despite this strong pattern, agriculture is not always the main driver. In some situations it may be fishing as in Lake Sevan, remittances as in the main IDP regions, or even donor or public sector employment.

Key questions for each RNF employment strategy may be summarised as follows:

Macro economic policy:

- What macro-level policies will foster economic growth in the RNFE?

RNF employment policy to foster geographically specific investment:

- How can reinvestment locally be fostered to enhance local employment and livelihoods (and without significant inefficiencies in opportunity costs of that investment?).
- How can foreign direct investment be encouraged which promotes sustainable livelihoods?

Policies designed to maximise sustainable remunerative waged or self-employment of poor individuals in the RNFE:

- How can waged employment be generated as a significant form of livelihood enhancement?
- What can be done to enhance existing remunerative self-employment opportunities for people, especially the poor?

- What policies can assist people who are forced to take up distress-push or coping strategies? Is the expansion in coping activities in part driven by the negative consequences of other policies?

Potential policy interventions and their ramifications are presented in Table 48 drawing on the same macro/meso/micro hierarchy of entry points. There are five columns:

- Column 1 lists the policy entry points as noted above
- Column 2 provide specific types of policy that might be expected at each level
- Column 3 gives examples of the problems these policies could be expected to affect and which may arise from these policies.
- Column 4 gives examples of specific policy actions or strategies. These actions are of two types: actions necessary to foster positive change in the RNFE and actions necessary to deal with the negative consequences of such interventions. These negative results (anticipated or not) might be experienced in the RNFE itself (e.g. in environmental or gender impacts) or in other parts of the economy (e.g. the crowding out of investment).
- Column 5 gives examples of the types of employment and other livelihood opportunities that policy would aim to enhance.

Table 48 A hierarchy of strategies/ policies for the RNFE in Armenia

Policy area	*Policy examples*	*Potential problems to be dealt with by policy and which may arise from policy*	*Strategy types* *a) To foster change* *b) To deal with negative consequences*	*Desired policy outcomes*
1. Macro policy	• Exchange rate policy • Interest rate policy • Fiscal policy	Income inequality trend up or down?; Gender equality helped or hindered (or mixed)?; Environmental protection enhanced or reduced (or mixed)?; Local governance and power systems improved or worsened	a) Devalue exchange rate; reduce capital market distortions to encourage local savings (check); b) Introduce selective import tariffs to protect infant RNF enterprises from foreign competition.	• Potentially includes all of below
*2. Encouragement of **local** reinvestment and **external** Investment*	• Soft and hard infrastructural development • Tax incentives	Non-sustainability of investment? Power systems; income inequality; temporary? Adequacy of markets for outputs; Zero-sum (transferred from other place which loses livelihoods?)	a) Make property rights secure (e.g. land reform); improve banking; provide infrastructure; micro-credit? Facilitate land consolidation. Reduce domestic trade constraints b) Introduce environmental and labour protection measures; gender awareness; anti corruption legislation.	• **Local reinvestment:** Re-invested local financial surplus; returned migrants; invested remittances • **Foreign investment** in industry, services or agriculture/ horticulture/ pisiculture
3. Employment *(i) Waged employment*	• Promotion of small-scale industry	Seasonality? Insecurity? Non-sustainability; Credit shortage; policy-induced biases towards agriculture;	a) A variety of project level interventions: creation of industrial estates; targeted credit programmes; training (short term); education e.g. IT, business skills (longer term). b) Environmental protection; employees' protection; gender awareness.	• Sustainable and remunerative formal and non-formal sector jobs, in small and micro enterprises; horticulture, factories, tourism, infrastructure and other construction.
(ii) Self employment	• Promotion of small-scale industry	Seasonality? Insecurity? Non-sustainability; Credit shortage; policy-induced biases towards agriculture;	a) A variety of project level interventions: creation of industrial estates; targeted credit programmes b) Environmental protection; employee protection; gender awareness	• Sustainable micro-enterprises; needed and profitable local service providers.
(iii) Employment based safety nets	• Productivity enhancing safety nets which build up capital assets	Seasonality? Insecurity? Non-sustainability; policy-induced biases towards agriculture; Credit shortage; Power systems (class, ethnicity, gender, age)	a) Public works programmes: food for work; cash for work; seeds for work b) Sensitisation, appropriate targeting mechanisms, building on and not undermining existing systems of social security.	• Prevention of downward livelihood trajectory spirals; promotion of resilience to shocks and reduced vulnerability; graduation into self employment and waged employment.

7.3.3. Key strategies for the development of RNF employment and IGAs

Short-term

- Formation of small business assistance centres (initially at least at marz level), which will conduct studies of internal and external markets, will provide information provision, consultancy and other services.
- Provision of tax and credit exemptions to non-farm businesses in rural areas, thus contributing to capital inflow. Producers of agricultural goods are exempted from taxes (VAT, profit tax), but not intermediaries and processors.
- Simplification and reduction of the cost of procedural requirements for land transactions.
- Develop a policy framework specifically aimed at rural labour market and employment issues which is supported by legislative acts
- Organise, provide and finance through the GoA's existing Employment Service Organisations a series of targeted services in the field of rural labour and employment
- Macroeconomic and exchange rate stability (also focus on elimination of inter-enterprise tax arrears and energy sector privatisation)
- Effectively tackle the level of corruption in the country; it constrains the economic development of MSMEs and SMEs.
-

Medium term strategies

- Removal of railroad blockade – lack of railroad communications significantly increases export prices, and constrains export potential of for small enterprises.
- Assistance in the formation of small-business associations, which, among others, will make efforts direct toward advertisement, market studies, identification of international partners and establishing contacts, receiving credits, legal protection etc.
- Need to develop bottom-up approaches to rural savings mobilisation
- Assist informal sector enterprises to formalise through the reduction of red-tape, stronger juridical contract enforcement procedures which reduce corruption
- Initiate a programme of land consolidation

Long-term strategies

- The permanent settlement of the Nagorno-Karabakh dispute
- The promotion of active civil society

The role of the rural non-farm economy (RNFE) in the employment and livelihoods of the rural poor is increasingly acknowledged. A better understanding of the factors and processes that affect the ability of the poor to engage in activities that are more sustainable and more remunerative will help in design of policies and interventions which increase the pro-poorness of the RNFE. This report has sought to provide insights into the way that the RNFE in Armenia operates and to provide suggestions on appropriate policies and strategies given the empirical and logistical limitations in assessing this aspect of the rural economy. The report particularly focuses on the participation of the poor and policy options.

In conclusion, the final point to be stressed concerns the institutional vacuum that presently exists in rural Armenia and the GoA, particularly concerning the potential of the rural non-farm economy. Whilst there is growing donor interest in the RNFE and suitable poverty-focused policy prescriptions, in practice, difficulties may arise within Armenia's

administrative structures and to some (though a lesser) extent donor organisations, in allocating (or assuming) responsibility for programmes and development work in this area. The RNFE straddles many interest groups – but fits securely with none. So, departments concerned with agriculture (and hence the rural economy), poverty alleviation, small business development, and social issues, may all have a strong interest in the RNFE – but none provides an obvious institutional home. A notable exception, and an opportunity, may arise in the context of decentralisation. Decentralisation should make it easier for different GoA departments to co-operate, and focus more sharply on locally important issues – conditions that seem to create an opportunity for taking forward an RNFE agenda.

8. Bibliography

Davis, J., and Adriana Cristoiu (2002) Determinants and Constraints of Rural Non-farm Diversification in Romania: A County Level Analysis

Davis, J., and Angela Gaburici (2001) Non-farm Employment in Small-scale Enterprises in Romania: Policy and Development Issues

Dudwick, N. (1996) Armenia: north-west agricultural services project: A socio-economic portrait of target communities. Institute for European, Russian and Eurasian Studies, George Washington University.

Intergovernmental Statistics Committee of the CIS (2000). CIS Statistics, statistical bulletin, Moscow 2000, No. 2.

"Land Reform and Private Farms: 1996 Status." EC4NR Agriculture Policy Note #8. World Bank. December 16, 1996. Draft.

Meadows, K.F., (2001), Approach and methods used for preliminary fieldwork in Uganda. NRI report 2601.

Mirzakhanyan, Astghik, Nairuhi Jrbashyan (1999) Labour Market in Armenia, Analysis and Policy, Yerevan.

National Statistical Service – Socio-economic Situation in Armenia 1999, Yerevan 2000.
National Statistical Service – Socio-economic Situation in Armenia 2000, Yerevan 2001.
National Statistical Service – Social Panorama and Poverty in Armenia, Yerevan 2001.
National Statistical Service – Hidden unemployment and hidden employment in Armenia, Yerevan 1996.
National Statistical Service – Farm Survey, Yerevan 1998.
National Statistical Service – *Marzes* of Armenia in Figures, Statistical Bulletin, 1999.

Petrossyan, H., Gharibyan, S., Yeganyan, R., and Shahnazaryan N. (1999) The Study of External Migration Processes of Republic of Armenia in 1991-1998, Yerevan 1999.

9. Appendices

Appendix 1. The distribution of surveyed rural communities by the regions (marzes) of Armenia.

Marzes		Communities	
1	Ararat	1	Hovtashen
		2	Kaghtsrashen
		3	Ajgepar
		4	Mkhchyan
		5	Dzorak
		6	Dashtavan
		7	Ararat
2	Syunik	1	Tolors
		2	Uts
		3	Akhlatyan
		4	Shake
		5	Ishkhanasar
		6	Akner
		7	Verishen
3	Gegharkunik	1	Ljashen
		2	Tsovazard
		3	Gandzak
		4	Karmir Gyugh
		5	Noraduz
		6	Chkalovka
		7	Sarukhan
TOTAL	**3**	**21**	

Appendix 2. Obstacles to the activities of rural non-farm enterprises, according to owner director of the limited liability company

The company was founded in 1997, is located in Tavush *marz*, produces dairy products (yoghurt, cream, cheese). Milk is bought from 15 farms of the community (100 litres daily), products are sold in Ijevan city. The owner director is 40 years old, has higher education. He is married has 2 children 14 and 16 years old. His wife is 35 years old, has higher education. They do not have employees, the entire work is done by family members. The husband also works in a state organisation.

Obstacles to business

Initial problems

There is a severe shortage of information, and they do not know who can consultancy.

For beginners credits are generally inaccessible, since the only collateral they can offer is the house and land, which is not acceptable to banks because of low liquidity.

It is difficult for beginners to follow the regulations (large space, equipment for testing the quality of products, etc.).

The existing equipment are outdated and worn out, and the new ones are expensive.

Currently international standards of bookkeeping are applied, and in rural areas there are no such specialists.

Problems during enterprise operation

Because of the distance from markets, transportation costs increase for small enterprises.

Expenditures on improving product design are not economically justified for small enterprises.

Migration of best specialists from rural to urban areas.

The mediators' institution does not function.

Low level of legal protection. For example, businesses selling dairy products (yoghurt, cream, butter, cheese, etc.) without state registration are better off, since they easily negotiate with the police in charge of law and order in cities and sell their products freely in any corner of the city, while state registered small businesses are asked to sell their products in a few specific areas. Shops, on the other hand, prefer selling products from large enterprises, since these are more reliable partners.

Appendix 3. Nonparametric Correlations Spearman's rho

		Annual Net Profit 2000 (US$)	*Annual expenditure 2000 (US$)*	*Turnover 2000 (USD)*	*Credit received 2000 (US$)*	*Annual net profit 1999 (US$)*	*Age (years)*	*Full time regular paid workers*
Correlation coefficient	*Annual Net Profit 2000 (US$)*	1,000	,464*	,629*	-,500	,550*	,122	,464*
	Annual expenditure 2000 (US$)	,464*	1,000	,926*	1,000*	,654*	,171	,472*
	Turnover 2000 (USD)	,629*	,926*	1,000	,500	,685*	,136	,524*
	Credit received 2000 (US$)	-,500	1,000*	,500	1,000	1,000*	1,000*	-,500
	Annual net profit 1999 (US$)	,550*	,654*	,685*	1,000*	1,000	,350*	,250
	Age (years)	,122	,171	,136	1,000*	,350*	1,000	,226
	Full time regular paid workers	,464*	,472*	,524*	-,500	,250	,226	1,000
Significant (1-tailed)	*Annual Net Profit2000 (US$)*	,	,001	,000	,333	,000	,217	,011
	Annual expenditure 2000 (US$)	,001	,	,000	,	,000	,137	,010
	Turnover 2000 (USD)	,000	,000	,	,333	,000	,192	,004
	Credit received 2000 (US$)	,333	,	,333	,	,	,	,333
	Annual net profit 1999 (US$)	,000	,000	,000	,	,	,020	,151
	Age (years)	,217	,137	,192	,	,020	,	,144
	Full time regular paid workers	,011	,010	,004	,333	,151	,144	,

* Correlation is significant at the .05 level (1-tailed).

FS 54723
ISO 9001

The Queen's
Anniversary Prizes
2000 & 2002

Enterprise Trade and Finance Group
Natural Resources Institute
University of Greenwich at Medway
Central Avenue
Chatham Maritime
Kent ME4 4TB
Unted Kingdom

Tel: +44 (0)1634 883199
Fax: +44 (0)1634 883706
Email: nri@greenwich.ac.uk
http://www.nri.org/rnfe/index.html