# Rural Household Survey: Analysis UNDP, 2012

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The Rural Household Survey (RHS) was commissioned by UNDP for the 2013 Human Development Report on Rural Development. The survey covered 3,055 village-based households, all located outside of designated urban settlements. The survey contained some 180 questions which were designed, wherever possible, to be compatible with existing data from the Household Budget Survey and Labour Force Survey. The methodology used in the survey can be found at the UNDP webpage<sup>1</sup>, along with the full questionnaire.

The findings of the Rural Household Survey have been supplemented and cross-checked against data from a variety of other sources. The survey used the "settlement approach" to defining rurality, which is most likely to highlight urban-rural differences in respect of factors like access to services, infrastructure and involvement with agriculture.

## **1** Demographics

The total population of a country is arguably its most important single statistic, but remains a matter of considerable discussion in BiH. The last population census was conducted in 1991, shortly before the war and the massive population movements that it caused. All subsequent figures are therefore estimates, with the latest value published by the BiH Statistical Agency being a figure of 3,840,000<sup>2</sup> as the mid-year estimate for 2011<sup>3</sup>. This represents a 12.3% drop from the 1991 census value of 4,377,000.

This section looks at some of the factors underlying this change, as well as at the urban/rural population balance, the age distribution and household size.

## 1.1 Migration

Migration has long been a feature of life in Bosnia and Herzegovina, and the trends since the Second World War fall into several phases:

- *Immediate post-war*: Rapid emigration immediately after the war, mainly for political and ethnic reasons.
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http://www.ba.undp.org/content/dam/bosnia\_and\_herzegovina/docs/Research&Publications/NHDR/2013/Annex%204%20-%20Rural%20Household%20Survey%20-%20Methodology%20and%20Questionnaire.pdf

<sup>&</sup>lt;sup>2</sup> Extrapolated estimates from different surveys suggest 3.5 million as more realistic population size of BIH but this is yet to be verified by the forthcoming national census

<sup>&</sup>lt;sup>3</sup> <u>http://www.bhas.ba/tematskibilteni/demografija%20konacna%20bh.pdf</u> Table 9.

- **1950s**: Internal migration from rural to urban areas, driven by the rapid programme of industrialisation in the new state of Yugoslavia and strongly encouraged by the authorities. This trend has continued since, but the most startling change from an agrarian to an industrial society took place in little more than a decade.
- **1960s and '70s**: Considerable emigration of relatively low-skilled workers to seek employment abroad as "gastarbeiter" (guest worker), allowing them to send regular remittances to their relatives back home. Typically these workers would maintain their property and social ties in BiH, to where they would eventually return and retire.
- 1990s: Massive internal and external migration to flee the fighting, with an estimated 1.2 million people leaving the country and a further 1.0 million being internally displaced. Since peace came, UNHCR has attempted to monitor the process of population return. By September 2011 they estimated that around 450,000 people had returned from abroad (slightly under 40% of the number estimated to have left the country), and that some 580,000 Internally Displaced Persons (just under 60% of the total) had returned to their homes; almost half of these are classified as "minority returns", in that people returned to areas where they were no longer in the majority ethnic group<sup>4</sup>.

This means that around 750,000 former BiH residents have now largely settled in other countries (forming one of the world's largest diaspora) or died abroad. Some 420,000 internally displaced did not return to their original homes; just over 110,000 are still officially registered as Internally Displaced Persons (IDPs), whilst the remainder have presumably passed away over the last twenty years.

• **2000** onwards: Renewed economic migration in search of better opportunities, aided by increasing access to EU countries (now visa-free), with remittances once again becoming an important income source for many families.

The combination of emigration and partial return, together with internal natality and mortality, led to the estimated 12 % drop in total population<sup>5</sup> over the 20 years from 1991 to 2011.

<sup>&</sup>lt;sup>4</sup> <u>http://unhcr.ba/wp-content/uploads/2011/10/September-Stat-Package1.pdf</u>

<sup>&</sup>lt;sup>5</sup> Up to 30% by some estimates! Again, the national census should verify it.

## **1.2** Rural population

The same factors that cloud estimates of total population also make it hard to measure the rural population, but those data that are available suggest that the proportion of the population living in rural areas (i.e. sparsely populated municipalities, applying the "area definition" of rurality) has remained almost constant in recent decades, showing a very slight rise from 60.5 % to 60.8 % from 1991 to 2007, and then falling back to 60.4 % by 2010:



Source: Census 1991; Household Budget Survey 2007; Municipality data 2010

This picture of a static share of rural population goes against the long-term trends found throughout Europe, and may in part be an artefact from comparing different surveys using different methodologies.

To get a more detailed understanding of rural-urban population shifts, the following graphs use data from the BiH Statistical Agency to examine the proportion of total population in each entity that lives in "Predominantly urban" (PU), "Semi-urban" (SU) and "Predominantly rural" (PR) municipalities, as defined in the box on "Measuring rurality":





This shows some important differences between the two entities: the Federation of Bosnia and Herzegovina experienced a pronounced shift from urban to semi-urban over the period, together with a slight growth in the rural population share. Most of the change occurred between 1991 and 2006, with a small (and probably not significant) swing back from 2006 to 2010.

For the first 15 years, Republika Srpska saw a movement from rural to urban, with very little change in the intermediate semi-urban population; the last four years saw some shift from urban to semi-urban.

The overall conclusion for BiH, that the share of population living in rural and semi-urban areas has remained almost unchanged, results from the combination of urban growth in what is now RS and urban shrinkage in the areas that have become FBiH.

It has been suggested that many people responded to the economic and other hardships of this period by moving back from the towns to the villages, where they could at least produce much of their own food and fuel, and generate some income from the sale of agricultural products. Whilst this may have happened during the 1990s, the data do not show any enduring effect, and suggest that in RS people were probably leaving the villages during the crisis years. However, it should be remembered that most countries of Europe saw a decline in the share of rural population over this period, so it is reasonable to assume that if BiH had not suffered the war and associated economic difficulties, there would have been a more pronounced movement towards the towns.

In summary, whilst Bosnia and Herzegovina has experienced probably the greatest movement of population of any European country since the Second World War, the net result has been that the share of population living in rural areas has remained relatively constant. These data and municipality-level analysis do not indicate that there has been rapid depopulation of rural areas as people move to the towns, nor that the Bosnian war created any lasting reverse migration from towns back to the countryside. However, there are significant differences from place to place, and some rural areas are indeed experiencing depopulation, whilst others see their population grow.

Data are not yet available for BiH on rural areas divided into "Predominantly Rural Close to a City" (PRC) and "Predominantly Rural Remote" (PRR). As an example of the potential importance of this division, the following chart shows the population change between 1995 and 2009 for these two kinds of regions in OECD countries:



*Source*: OECD Regions at a Glance, 2011.

With just the single exception of Ireland, every country experienced faster growth in rural regions close to a city than in remote rural regions, and in many cases the remote regions lost population whilst the rural regions close to a city grew<sup>6</sup>. It is quite possible that the overall picture of relatively slow rural depopulation in BiH may hide some significant population movements between different rural areas.

## **1.3** Age structure

The overall population of Bosnia and Herzegovina is relatively young, with a mean age of 38<sup>7</sup>. The female population is on average two years older than the male, with most of this difference occurring in the higher age brackets due to higher female life expectancy. Just over two-thirds of the population is of working age; this provides a strong demographic base to fund the major public expenditures of education, pensions and health care, though the ability of the state to meet these obligations will depend on its economy as well as demography.

However, a combination of falling birth rates and selective outmigration mean that the population is ageing. This is particularly so in rural areas where, over the 21-year period from the 1991 Population Census to the 2012 Rural Household Survey, the average age of the rural population increased from 33 to 40. Nationally, the most serious implication of this ageing trend is that a diminishing working population will have to support the pension

<sup>&</sup>lt;sup>6</sup> The four countries at the right of the graph – Belgium, the Czech Republic, Germany and the Slovak Republic – do not have remote rural regions according to this definition, whilst the Netherlands has no "predominantly Rural" regions.

<sup>&</sup>lt;sup>7</sup> Household Budget Survey, 2007

and health-care costs of an expanding group of retired people. Within the rural areas, it means that there will be fewer people around to provide services to the ageing population, and once village shops, cafes and health facilities close, the less mobile elderly population can become very isolated.

## **1.4** Household structure

The average size of BiH households, as measured by the population census and subsequent surveys, has shown a steady decline from 3.6 people in 1991, to 3.4 in 2004 and 3.3 by  $2007^8$ . This indicates that households in BiH are somewhat smaller than the average for the New Member States (3.6) but still larger than those in the EU-15 (3.0).

A direct comparison between urban and rural households was provided by the 2004 Household Budget Survey, finding that rural households were some 20 % larger than those in urban settlements, with 3.63 as compared to 3.06 members<sup>9</sup>.

The Rural Household Survey found that some 81 % of rural households were headed by men, with 85 % of female household heads being widows.

# 2 Income and employment

The Rural Household Survey allowed an independent estimate of the unemployment rate in rural areas. It focused on the different sources of household income such as regular employment, short-term and seasonal employment, pensions, etc.

## 2.1 Employment and unemployment

## Unemployment nationally and in rural areas

The 2012 Labour Force Survey recorded an unemployment rate of 28.0 %, by the ILO definition. This was dramatically higher than the situation in the EU at the time, where the average was 9.7 %. Only Spain, at 21.7%, approached the situation in BiH, with the next-worst Member State being Greece with 17.7 % unemployment, whilst the best was Austria with 4.2 %. Since then the continuing impact of the Euro crisis has driven up unemployment throughout the EU, and most probably in BiH as well.

The BiH number, based on official statistics and the ILO definition, is almost certainly exaggerated by informal employment and self-employment, but even so it indicates that the employment situation in BiH is very serious.

<sup>&</sup>lt;sup>8</sup> Source: 1991 Census; 2004 & 2007 Household Budget Surveys.

<sup>&</sup>lt;sup>9</sup> The 2012 Rural Household Survey generated a lower estimate for rural household size, at 2.9 people. This probably reflects some methodological differences as well as a continued shrinkage of both rural and urban households.

#### **Measuring unemployment**

Unemployment rate is measured as a share of the "economically-active population", i.e. everyone who is either working (whether employed or self-employed) or willing to work, and therefore excludes people under 15, full-time students, housewives, pensioners, people on military service, and people unable to work.

The section of the Rural Household Survey dealing with employment included the option "Unemployed (cannot get work, do not want to work)"; some 38% of economically-active respondents chose this option.

However, the standard definition of "unemployed" as used by the International Labour Organisation (ILO) also considers whether the person is currently without work, available for work, and actively seeking work. An approximation of this definition was applied to the Rural Household Survey data to select people who:

- a) Described themselves as unemployed;
- b) Were not currently working; and
- c) Were registered with the Employment Bureau.

This definition results in an unemployment rate of 19.0 % for the rural areas of BiH.

Both the Labour Force Survey and the Rural Household Survey seek to measure actual employment irrespective of whether or not it has been formalised, but it is still probable that some respondents working informally for cash would omit to mention this to the interviewer. Thus the figures from both surveys are likely to over-estimate unemployment to some extent, just as the unemployment figures in other European countries may also be over-estimates.

Whilst the ILO definition is the one normally used for international comparisons, other definitions are also in use and so different (and often higher) figures for BiH may be encountered.

Results from the Rural Household Survey (RHS) gave an estimate of 19.0 % unemployment in rural areas – significantly lower than the national average – though there may be some methodological and sampling differences between this survey and the 2011 Labour Force Survey. However, taking two important information sources together – the RHS finding that unemployment in rural areas is lower than in urban areas and official statistics showing that there is very little difference in unemployment between rural and urban municipalities – it seems that the commonly-held view that rural areas suffer from above-average unemployment can be rejected.

#### Employment patterns nationally and in rural areas

The 2012 Labour Force Survey<sup>10</sup> gives a very general breakdown of employment (including self-employed and unpaid family workers) into agriculture (20.6 %), industry (30.4 %) and services (49.1 %), with a total of 167,000 employed in agriculture. Unfortunately, the survey does not give a more detailed split into specific activities nor breaks down these figures by urban-rural (though it does give an urban-rural breakdown of marital status, indicating that the possibility exists to separate urban and rural values).

Of these three broad categories, the only one that appears specifically rural is agriculture, and it might seem reasonable to assume that almost all agricultural work is carried out in rural areas, but the OECD approach classifies entire municipalities or other regions as either

<sup>&</sup>lt;sup>10</sup> <u>http://www.bhas.ba/tematskibilteni/lfs\_bh.pdf</u>

"urban" or "rural" on the basis of population density, so there will be a substantial amount of agricultural activity and employment even amongst "urban" municipalities.

This area would benefit from further survey work to look in detail at what rural people do and where they work, so as to build up a more comprehensive picture of the rural economy and its linkages to urban areas.

## 2.2 Rural household income

It is always a challenge to obtain accurate income data through surveys, partly because of the respondents' natural tendency to be cautious and under-report their income, and partly because of difficulty in placing a monetary value on products produced and consumed by the household or obtained by barter.

#### **Measuring income**

The questionnaire structure of the Rural Household Survey sought to collect income data in two progressive steps:

- Firstly, respondents were asked which sources of income they had, from a list of 30 possible options in six groups (income from employment; income from self-employment; income from property and other assets; receipts from abroad; receipts from family members in BiH; pensions and other social payments). Respondents could, and usually did, list more than one source of household income.
- The respondents were invited to state how much income they received from each of the sources they had just identified. Some provided this information, whilst some declined to give figures.

In analysing the data, respondents who declined to indicate their sources of income were simply excluded from the analysis, as if they had not even been interviewed.

In calculating the average income from each source, the average was based on just those who stated an amount of income, but applied to all those who said that they received some income from this source. In other words, somebody who admitted that they received income from a particular source but declined to state the amount, was assumed to receive the same level of income from this source as those who both listed this income source and stated the amount received.

Income data are notoriously difficult to collect, in particular because of many respondents' understandable suspicion that their responses might not be kept confidential and could find their way back to the tax department or other authorities. Three main sources of bias can be identified:

- Respondents might inaccurately state their sources of income. In particular, somebody involved in the grey economy (e.g. employed but paid in cash and not declared to the authorities) might well choose to keep quiet about this source of income. There is no particular reason why somebody would do the opposite, i.e. list a source of income which they do not in fact have, so this bias will tend to under-estimate total household income.
- 2) Many respondents stated that they had a particular source of income but declined to disclose the amount. The share of people declining to disclose the amount ranged from 0 % (for certain categories of rental income that applied to only a few people) up to 97 % (for remuneration of board members). Averaged across all possible income sources, only one-third of respondents who stated that they had a particular income source were prepared to declare the amount. It is quite plausible that those with the higher incomes would be more reluctant to declare the amount, so this bias may also tend to under-estimate total household income.
- 3) Finally, respondents who did declare the amount of income they received from a particular source might give an inaccurate amount, either because of not knowing the precise amount (e.g. income from sale of own produce), or by deliberate under- or over-statement. Somebody wishing to impress the interviewer might deliberately over-state their income, whilst someone concerned about possible taxation might choose to under-state the amount. The latter seems more likely, and thus this bias would also tend to under-estimate total household income.

Overall, all three potential biases are likely to operate in the same direction, possibly leading to quite a significant under-estimate of total household income. The one mitigating factor here is that other regular surveys tend to apply the same methodology and suffer from the same biases and thus, whilst the estimated absolute value of income may not be very robust, the comparison with other surveys should be relatively reliable.

With this caveat, the results of the Rural Household Survey for monetary income were as follows:

Source of income	Average monthly Amount	y household income Proportion	Share of households receiving income from this source
Agriculture	50 KM	6.5%	9.4%
Employment	517 KM	67.4%	53.4%
Self-employment	13 KM	1.7%	1.8%
Services & seasonal	12 KM	1.5%	4.8%
Assets	9 KM	1.1%	2.5%
Support:	167 KM	21.7%	51.2%
Remittances	1 KM	0.2%	1.2%
Family	3 KM	0.3%	1.7%
Social payments	163 KM	21.2%	49.6%
Total	767 KM	100.0%	-

Source: 2012 Rural Household Survey

Income information was collected for 30 detailed categories of potential household income and combined into these income groups as follows:

Agriculture: Income from a registered agricultural enterprise (reported by 2.1 % of households), and income from sale of own products (reported by 7.7 % of households). It is possible that some of the "own products" were non-agricultural (e.g. wood), but the majority are likely to be food produced or processed on the holding, so this entire category has been treated as agricultural income.

Overall 9.4 % of households received some income from agriculture, which made up 6.5 % of total income across all surveyed households.

• **Employment**: Salaries and benefits from all kinds of employment, including employment by international organisations or as a director of a company. It is possible that some of this employment will be in agriculture, but the survey section on households' agricultural activities found that very few people were employed in agriculture, so this entire category has been treated as non-agricultural.

This was the most common and important source of income, received by 53 % of households and making up 67 % of total income.

• **Self-employment**: Income from a registered non-agricultural business (and excluding the informal work covered in the following category of "Services & seasonal).

Formal self-employment was relatively rare, providing income to just 1.8 % of households and making up 1.7 % of the total.

• Services & seasonal: Income from providing services or doing short-term or seasonal work. Probably some of this will be agricultural, such as contract ploughing and fruit-picking, but it will also include work on building sites, cutting wood and a whole range of other activities; in the absence of more detailed information, all of this category has been treated as non-agricultural.

Some 4.8 % of households reported income from providing services and doing short-term or seasonal work, but it made up just 1.5 % of total income, probably reflecting the low pay rates for this kind of work.

• Assets: Income from savings, investments and leasing out of property, machinery and other assets such as livestock. Four respondents reported income from renting out land, presumably farmland, but the agricultural income from this will have been generated and reported by other households, so this category is also treated as non-agricultural.

Only two respondents reported any income from savings or investments, and the most common source of asset income was from renting out equipment or livestock. Overall 2.5 % of households received some income from assets, representing 1.1 % of total income for the sample.

- **Support**: All forms of support payments made to the household, including:
  - Remittances from family members living abroad: Once a very important means of economic survival, the survey found that remittances are now received by just 1.2 % of rural households and make up only 0.2 % of overall household income. This is much lower than the figures reported by other sources (e.g. 12.3 % of GNI in 2009, according to the World Bank "*Migration and Remittances Factbook, 2011*<sup>11</sup>"); some reviewers have suggested that urban households are more likely to have relatives working abroad, but this is hardly likely to account for so large a discrepancy. More probably it reflects under-reporting by survey respondents and/or different classification of income sources;
  - Support from family and friends: 1.7 % of households received regular support from friends and relatives living in the country, making up 0.3 % of overall household income;
  - Social payments: Various kinds of pensions, social benefits and child support. The large majority of this income was from pensions of some form, and none of the respondents reported receiving any unemployment benefit. Just under half (49.6 %) of all households received some kind of social payments, and together these represented 21.2 % of all income received by the sample.

Over half (51.2 %) of all households received one or more of these kinds of formal or informal support payment, which represented 21.7 % of overall household income for the survey. This makes support payments the second most important source of household income, after regular employment.

Looking at the absolute level of income, the total household income of **767 KM** ( $\in$  391) per month may be compared with the following national averages:

• **416 KM** per month, the poverty line per adult equivalent set in 2011 (implying a monthly requirement of around 1,100 – 1,400 KM for a typical rural household of 3.4 people, including adults and children).

<sup>&</sup>lt;sup>11</sup> <u>http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1199807908806/Bosnia&Herzegovina.pdf</u>

- **545** KM, the average monthly household income recorded in the 2001-2004 "Household Survey Panel Series;
- **830 KM**, the average monthly household income of returning diaspora families surveyed for an IOM study<sup>12</sup>;
- **1,370 KM** per month, the average real household consumption calculated in 2012<sup>13</sup>.

Whilst the data on rural and urban incomes are not directly comparable, it does appear that many rural households are living on the edge of poverty, or worse – which is consistent with the findings of the poverty analysis based on the 2007 Household Budget Survey. To understand this better, the following section divides the surveyed households into groups according to type and level of income.

<sup>&</sup>lt;sup>12</sup> "To BiH or not to BiH? A report on the return of young Diaspora to the BiH labour market"; UNDP Youth Employability and Retention Programme, 2011:

http://www.ba.undp.org/content/dam/bosnia\_and\_herzegovina/docs/Research&Publications/Democratic%2 OGovernance/To%20BiH%20or%20not%20to%20BiH/BiH To BiH or not to BiHa report on the return of young Diaspora to the BiH labor market.pdf

<sup>&</sup>lt;sup>13</sup> Preliminary data from the 2011 Household Budget Survey. The headline figure of 1,672 KM includes an imputed value for the consumption of home-produced food and fuel, and imputed rent. Since neither of these imputed elements was included in the household income estimates of the RHS, the most relevant comparison is with the actual cash expenditure figure of 1,370 KM.

## 2.3 Households divided by primary income source

Each of the households was classified according to which of the six main categories accounted for the majority of its income. Households where no one category reached 50 % of total income were classified as "Mixed", though only 1.3 % fell into this group; in fact, most households show the exact opposite of pluri-activity, with the dominant source of income accounting for 85-95 % of the total for each of the other groups. The distribution of households between these seven groups is shown in the following chart:



Source: 2012 Rural Household Survey

The majority of households (52 %) generated half or more of their income from regular employment, whilst 36 % received most of their income through various forms of support. Only 6 % of households got the majority of their income from agriculture, with even fewer depending on services and seasonal work, income from assets, or self-employment.

Having divided households according to primary source of income, it is now possible to see how their monthly incomes vary according to income type:



Source: 2012 Rural Household Survey

The wealthiest households, at 1,200 KM per month, were those few that drew income from several sources, followed by the majority that depend mainly on employment, whose monthly income averages 1,073 KM. Households dependent on self-employment were slightly worse off, with an average of 969 KM per month, but this hides quite a wide variation between households.

Households living mainly from agriculture had a monthly income of 764 KM, almost exactly the average for the whole survey.

The relatively small group of households living mainly on the income they get from assets achieve an income of just 449 KM, significantly below the survey average. This suggests that they are not rich landlords and investors, but poor families trying to generate what income they can from renting out whatever assets they possess.

The large group of households living mainly from support payments are indeed struggling, with their monthly income of 349 KM reaching only 45 % of the survey average. The only group to do worse than this were those households dependent of providing services and doing short-term and seasonal work: their monthly income of 253 KM represents just one-third of the overall average.

## 2.4 Income distribution

An alternative way to look at this is by the income distribution, or share of households in each income bracket:



Source: 2012 Rural Household Survey

There is large group of households, almost a quarter of the total, earning 200-400 KM per month. Then the distribution tails off gradually, broken by another peak of almost 20 % of households earning 800-1,000 KM monthly.

Almost 90 % of households in the survey declared a monthly income below the calculated "family consumption basket" of 1,370 KM though two factors should be borne in mind here:

- 1) The income figures generated from the Rural Household Survey are believed to be under-estimates, and a few percent of the responses were so low as to be completely implausible;
- 2) Almost half of rural households produce some proportion of their own food, giving them an advantage over urban households.

That said, it still appears that a lot of rural households are living in or near poverty.

#### Source of income for households in different income brackets

In order to see what is causing these prominent spikes, the following chart shows the breakdown of income by sources for each monthly income category:



Source: 2012 Rural Household Survey

Here it is possible to see that the large group of households earning 200-400 KM per month are almost entirely dependent on social payments, and that the second biggest group – those earning 800-1,000 KM per month – generate almost all of their income from regular employment.

Thus, rural poverty is a problem that applies particularly to pensioners and others living on social benefits.

Agriculture provides an almost constant income of around 100 KM per month across all categories of income from 400-2,600 KM per month. From this point up to 3,400 KM per month, only one household had any agricultural income at all, and that less than 30 % of the total. But the wealthiest four households in the survey were all farmers, with two of them earning about a third of their income and two almost their entire income from agriculture, including the highest earner with over 6,000 KM per month.

Compared to this, the highest income generated by any self-employed household was 2,300 per month, with 3,800 KM for the best employed household.

These two different views – share of households and share of income – are combined in the following graph, where the height of the columns represents the proportion of households in each income bracket, and the colouring within each column shows the relative contribution of different income sources:



Source: 2012 Rural Household Survey

This makes it very clear that there are two main groups of households in the villages of Bosnia and Herzegovina: poor families depending heavily on social payments, and middleincome families that gain the large majority of their income from paid employment.

The survey found a few successful farmers, but no particularly successful entrepreneurs in other fields; it seems that, for the large majority of rural households in BiH, the best way to secure a high income is not to go into agriculture nor to start your own business, but to go out and get a good job. And the one thing you do not want to do is to end up dependent on social payments.

## 2.5 Employment, income and gender

#### Economic and gender

The following chart shows the employment status of each respondent by gender:



Source: 2012 Rural Household Survey

This shows large differences between the sexes, in line with traditional gender roles. Men more than twice as likely as women to be employed, self-employed or engaged in contract work; they are also significantly more likely to be retired or unemployed.

More than a third of women described themselves as housewives, with large numbers of women also employed, unemployed or retired. Slightly more women than men were pupils or students – further evidence that the gender gap in education has now been largely eliminated.



The following graph looks at how the gender balance of people in employment varies with age:

Source: 2012 Rural Household Survey

This shows that gender roles and employment vary considerably with age:

- Amongst young people aged 16-26, some 40 % of those employed are women. By the 46-55 age group this has fallen to 30 %, indicating significant emancipation of women over the last 30 years.
- The sharp fall from there to the figure of just 18 % of women amongst the 56-65 year-old employed will reflect to a large extent the tendency for women to retire earlier, as well as of the changes taking place in the 1970s and '80s when they would have taken the decision whether to embark on a career or concentrate on their family.

(In some countries of Western Europe, many women stop working for a number of years to raise children, then return to work when their youngest child starts school. If this pattern were common in BiH, then the "30" column would be lower than both the "20" and the "40", which is not the case. This probably reflects the relatively generous maternity leave offered in BiH, with such mothers still counting as employed.)

A key question is whether the distinctive and changing gender roles are a specifically rural phenomenon or a general feature of Bosnia and Herzegovina; one attempt at answering this question can be made by comparing the results of the Rural Household Survey with the national results of the Labour Force Survey:



Source: 2012 Rural Household Survey; 2012 Labour Force Survey

The graph shows that women comprise a smaller proportion of the employed and selfemployed workforce than nationally, indicating an even greater rural-urban difference. This is in line with comments made in many reports about the role of women in rural areas.

The next column shows that rural women are markedly less likely to describe themselves as working in a family business ("Family workers" according to the LFS; "Assisting member in family enterprise or craft, farm" according to the RHS). This appears to contradict the view expressed in various reports (e.g. the 2007 National Human Development Report on Social Exclusion, and the CEDAW Periodic Report 2011<sup>14</sup>) that women are expected to tend the family farm rather than go out to work.

However, there are potential problems with differences in definition between the two surveys; in particular, the Labour Force Survey does not record a category of "Housewife", which was the most frequent response given by women in the Rural Household Survey. Thus not too much should be read into this comparison – though a re-analysis of the Labour Force Survey data using a rural-urban classification (as in its Table 21) would provide a reliable answer to the question of whether traditional gender roles are indeed more prevalent in rural areas.

<sup>&</sup>lt;sup>14</sup> http://www.arsbih.gov.ba/images/documents/cedaw 4 5 e.pdf



The following chart looks at how total household income varies with the gender of the household head (or more accurately, with the gender of the respondent of the survey) and with household size:

Male-headed households have higher incomes than female-headed for all household sizes except 2 and 3 members – the most common household size, accounting for 53 % of surveyed households. Overall the 3.7 % difference between male-headed households (780 KM/month) and female-headed households (752 KM/month) is not statistically significant.

What does stand out from the graph is the very low monthly income of single female households, at just 431 KM. Seventy percent of these women are aged 60 or above, and are quite likely to be widows. Data from the 2007 Household Budget Survey presented in section **Error! Reference source not found.** show that poverty in rural areas is particularly focused on smaller households, which may include many of these.

It is not known whether the relative income equality of male- and female-headed households is repeated in urban areas of Bosnia and Herzegovina.

## 2.6 Informal employment

One statistical problem affecting the whole region is the significant amount of informal employment. On the one hand, the high level of payroll taxes and social contributions gives employers a major incentive to pay cash-in-hand and not report all of their workers. On the other, registering as unemployed can bring a number of benefits in terms of health insurance and reduction in various official charges, so people who are actually working may still register as unemployed. The combination of these two factors means that official data

Source: 2012 Rural Household Survey

tend to under-estimate employment and over-estimate unemployment; the fact that the registered unemployment is 45 % and the statistical estimate using the ILO definition is "just" 28 % gives some indication how large this discrepancy may be.

The situation in agriculture is particularly complex, as someone may spend some of their time labouring or doing contract work for a farming neighbour – paid in cash – and some tending their own crops and livestock, with part of the output being sold – again usually for cash – some bartered and some consumed by their own household. This common pattern of activity helps to boost the economic resilience of rural households, but can make it difficult to get a firm picture of either income or employment; with around 60 % of the total population living in rural areas, such informal farming activities can significantly distort even national statistics. In recognition of this problem, some of the questions in the Rural Household Survey were designed to give at least an indication of the importance of formal and informal agricultural work and trade.

#### Main conclusions of the Rural Household Survey on income from agriculture

- 9.4% of households received some income from agriculture: 2.1% reported income from a registered agricultural enterprise and 7.7% reported income from sale of own products (assumed to be mainly agricultural products).
- These two sources of agricultural income made up 6.6 % of total household income across the whole survey, though this cash income would be supplemented by the income-saving effect of producing some of their own food.
- The share of household income coming from agriculture varied considerably with farm size, ranging from 1 % of income for those households with little or no involvement in agriculture, to 60 % of income for large farms (i.e. with at least 30 hectares &/or livestock units).
- 6.5 % of households reported that more than half of their income came from agriculture; most of these were classified as "large smallholdings" or "small farms", managing 1-10 hectares &/or livestock units.
- The large majority of households involved in agriculture gained most of their income from other sources, usually regular employment or pensions.

# 3 Agriculture and farm types

The Rural Household Survey investigated in considerable depth households' involvement with agriculture, and the data allowed households to be classified into four main groups according to the amount of land that they cultivate and number of livestock that they keep.

## 3.1 Farm types

All rural households were classified according to the area of "cultivated land" (arable, orchards and vineyards) that they used and the number of "Livestock Units" (LSU) that they kept, into four main types:

• Non-agricultural (35 % of all households): Households that did not cultivate any land or keep any livestock. A few of these had small areas of meadow, pasture or woodland and many of them had a few hundred square metres of yard, but none

had any production of crops or livestock. Mostly they reported no significant sales of agricultural produce or income from agriculture.

- Gardens (16% of households): Holdings with no more than 0.1 ha (1,000 m<sup>2</sup>) of cultivated land &/or 0.1 LSU (equivalent to 10 poultry, 2 beehives or 1 sheep or goat, though less than 1% of these households kept sheep). Only 4% of these households reported selling agricultural produce, and such sales contributed 0.7% of total household income. Effectively these households have no more involvement with agriculture than would a suburban home with a reasonably-sized garden.
- Smallholdings (37 % of households): Holdings with 0.1 3 ha of cultivated land &/or 0.1 3 LSU (a maximum equivalent to 3 cows, 9 pigs, 15 sheep, 30 poultry or 6 beehives). Overall, 25 % of these households reported selling agricultural products, and the gross values of these sales represented 8 % of the total income of smallholding households. If these sales were of fruits and vegetables, most of the income would be profit, but if they were of livestock products a significant proportion of the revenue would be offset by the cost of purchased feed. For pigs and poultry the feed cost can be significantly more than half the output value, so the net contribution that agriculture makes to these households' cash incomes is likely to be very small.

These "smallholdings" vary considerably in size, and so may be further split into three, where the importance of produce sales increases with holding size:

- Small smallholdings (9% of all households): Holdings with 0.1-0.3 ha/LSU;
  19% of these sell agricultural produce, generating 5% of household income;
- Medium smallholdings (12 % of households): Holdings with 0.3-1 ha/LSU;
  25 % sell agricultural produce, generating 6 % of household income;
- Large smallholdings (15 % of households): Holdings with 1-3 ha/LSU; 28 % of these sell produce, generating 11 % of household income.
- Farms (13 % of rural households): Holdings with more than 3 ha of cultivated land &/or 3 LSU. Overall, 43 % of these households reported selling agricultural produce, with the gross income representing 26 % of total household income; after adjusting for the costs of purchased feed, fertiliser and fuel, the net contribution from agriculture appears to be well under a quarter of total income.

These holdings vary considerably in size, and so have again been divided into three sub-groups:

- Small farms (10 % of households): Holdings with 3-10 ha/LSU (up to 12 cattle, 33 pigs, 100 sheep or 1,000 poultry); 43 % of these sell produce, generating 21 % of total household income. If these holdings consisted mainly of arable crops, then there would not be much work involved, but if they grew fruit or vegetables, or kept livestock, then they would take up a significant amount of time, perhaps as a "part-time" farm managed by one member of the household whilst other went out to work.
- Medium farms (2.3 % of households): Holdings with 10-30 ha/LSU (up to 38 cattle, 100 pigs, 300 sheep or 3,000 poultry); 40 % of these sold produce, generating 26 % of total household income. These are large enough to rate as small full-time farms, typically producing a lot more food than even an

extended family could consume, so it is strange that 60 % said that they did not market any agricultural produce.

Large farms (0.8% of households): These holdings had 30-100 ha/LSU, with the largest holdings in the survey having around 75 LSU or 85 ha. Reportedly, only 45% of these farms sold agricultural produce (though this figure is again rather suspect), and these sales plus "registered agricultural activities" contributed 60% of the overall household income of the large farms. Here the term "large" is a relative one, as these farms would be quite small in many west European countries, but in BiH they are big. This is probably the only group of farms that would be large enough to consider applying for IPARD funding when it becomes available – though other parts of the rural community may benefit from the non-agricultural IPARD measures under Axis 2, Axis 3 and LEADER.

#### To summarise:

- Just over half of rural households (51 %) have no more involvement with agriculture than their urban or suburban counterparts, with over a third (36 %) having no agricultural production at all;
- More than a third (36 %) of rural households operate "smallholdings", producing a significant share of their own food requirements, but with a relatively small involvement in agricultural markets. The net cash income they generate from agriculture represents just a few percent of total household incomes, but the food they produce has a significant income-saving effect in addition to this.
- Around 13 % of rural households may be considered as full- or part-time farms, producing significant quantities for sale. However, even this group obtains more than three-quarters of household income from non-agricultural sources (mainly regular employment and social benefits), and so is more dependent on the non-agricultural economy and on social policies than on the agricultural economy and its policies.
- Less than 1 % of households would typically be classified as "commercial farms" and be targeted by IPARD measures to improve agricultural production and marketing. This is the only group of households for which agriculture contributes more than half of gross income.

## 3.2 Land use and livestock

This section presents details of land use and livestock raising for each of the main types of holding identified above, excluding the "non-agricultural" households.

#### Gardens

The following table gives the key data for "Gardens". Data in bold type are averages for the whole group; data in italics pick out the proportion of these holdings that have each kind of land use or livestock, and give additional information on these. "LSU" stands for "Livestock Units".

Gardens							
OVERVIEW							
Share of:							
Households				16%			
Cultivated land				1.4%			
Total LSU				0.2%			
	L	AND					
Cultivated:	0.06 ha						
Arable	0.06 ha	84%	have	0.07 ha	in	1.1	parcels
Orchards	0.00 ha	10%	have	0.05 ha	in	1.1	parcels
Vineyards	0.00 ha	1%	have	0.03 ha	in	1.0	parcels
Grassland:	0.02 ha						
Meadows	0.02 ha	5%	have	0.40 ha	in	1.0	parcels
Pasture	0.00 ha	0%	have	0.20 ha	in	1.0	parcels
Other:	0.03 ha						
Woodland	0.01 ha	2%	have	0.54 ha	in	1.1	parcels
Fallow	0.00 ha	0%	have	0.00 ha	in	0.0	parcels
Farmyard	0.01 ha	25%	have	0.06 ha	in	1.0	parcels
Total land		0.1	L1 ha		in	1.3	parcels
LIVESTOCK							
Cattle	0.00 LSU	0.0	head	1%	have	0.0	cattle
Pigs	0.00 LSU	0.0	head	0%	have	0.0	pigs
Sheep & goats	0.00 LSU	0.0	head	1%	have	0.5	sheep
Poultry	0.01 LSU	1.4	head	20%	have	7.0	poultry
Beehives	0.00 LSU	0.0	hives	0.4%	have	1.5	beehives
Total livestock				0.01 LSU			

Source: Rural Household Survey

- This 16 % of rural households, too small to be considered as agricultural holdings for most statistical or administrative purposes, account for just 1.4 % of the cultivated land and 0.2 % of the livestock.
- The average size of the overall holding is about 0.11 ha (1,100 m<sup>2</sup>), usually in one parcel, and in most cases just over half of the land is used as "arable", presumably a vegetable garden. Only 10 % of these households had sufficient area of fruit trees to report it as an "orchard".

 Around 20 % of these households keep poultry, with those that do having an average of 7 birds, presumably laying hens. The large majority of these households do not keep any other kind of livestock<sup>15</sup>.

Most of these households would produce sufficient vegetables to meet the majority of their seasonal needs, and that 20 % that keeps chickens would produce most of their egg requirements during the summer. However, they would not produce sufficient produce to sell, and all their other food requirements, including almost all of their meat, would have to be purchased.

#### Smallholdings

The following table presents overall averages for all of the households classified as "Smallholdings" though, as noted in the previous section, there is quite a wide size range within this group:

Smallholdings									
0.1 - 3 ha &/or LSU									
OVERVIEW									
Share of:									
Households				36%					
Cultivated land		26%							
Total LSU		24%							
	LAND								
Cultivated:	0.47 ha								
Arable	0.42 ha	80%	have	0.53 ha	in	1.5	parcels		
Orchards	0.05 ha	17%	have	0.29 ha	in	1.2	parcels		
Vineyards	0.00 ha	2%	have	0.11 ha	in	1.0	parcels		
Grassland:	0.23 ha								
Meadows	0.16 ha	18%	have	0.88 ha	in	1.5	parcels		
Pasture	0.07 ha	8%	have	0.93 ha	in	1.5	parcels		
Other:	0.14 ha								
Woodland	0.05 ha	7%	have	0.73 ha	in	1.2	parcels		
Fallow	0.00 ha	0%	have	0.40 ha	in	1.5	parcels		
Farmyard	0.09 ha	36%	have	0.24 ha	in	1.0	parcels		
Total land		0.8	34 ha		in	2.2	parcels		
LIVESTOCK									
Cattle	0.45 LSU	0.6	head	35%	have	1.6	cattle		
Pigs	0.19 LSU	0.6	head	26%	have	2.5	pigs		
Sheep & goats	0.07 LSU	0.7	head	10%	have	6.5	sheep		
Poultry	0.13 LSU	12.9	head	56%	have	23.2	poultry		
Beehives	0.04 LSU	0.8	hives	6%	have	13.8	beehives		
Total livestock				0.88 LSU					

Source: Rural Household Survey

<sup>&</sup>lt;sup>15</sup> 1 % of respondents in this group said that they kept cattle, but had none on the holding on the day of the census. Without any information on cattle numbers, they could not be taken into account in calculating the total livestock units (LSU).

- This 36 % of rural households accounts for just over one quarter of all cultivated land and just under a quarter of total livestock units. Whilst only 13 % of the total produce of this group is sold, it should be recognised that these smallholdings account for around a quarter of total food production in BiH, with probably an even higher contribution to overall fruit and vegetable production.
- These holdings have an average of 0.84 ha of land, of which just over half is usually arable. Quite a number of these holdings also have some orchards (17%) and meadows (18%).
- On average these smallholdings have their land in 2.2 separate parcels, typically the result of marriage and inheritance over time. On these small, mixed holdings where most of the work is done by hand or by small machinery, this fragmentation is not a big problem for them.
- More than half of these holdings (56 %) keep poultry, and these have an average of 23 birds each more than sufficient for household egg needs and so indicating that they are either producing eggs for sale &/or rearing chickens for meat.
- Just over a third (35%) of holdings keep cattle. These have an average of 1.6 animals, which would typically be one cow and a calf being reared for meat sufficient to provide the household with milk and dairy products and have some left over for sale.
- Across all of BiH, just over a quarter (26 %) of smallholdings keep pigs, though this varies with entity: 36 % in RS, 4% in FBiH and 23 % in BD. Those that do keep pigs have an average of 2.5, which would most usually be pigs bought as weaners to fatten up for slaughter on the holding.
- Sheep and goats are rather less common, with 10 % of smallholdings keeping an average of 6.5 sheep. Once again, this varies between entities: 5 % in RS, 13 % in FBiH and 3 % in BD.
- Beekeeping is relatively rare, being carried out by just 6 % of smallholdings, but these have an average of 14 hives each, suggesting a relatively serious operation where hives are moved around to different places to take advantage of different flowering periods, and where honey is being produced for sale.

There is considerably variety amongst this large category of "Smallholdings", both in size and in the kinds of crops and livestock produced. Wherever a particular product is produced, the scale of the holdings is such that it would normally meet the needs of an extended family, leaving them to buy or barter stable foods such as bread and rice, together with those kinds of fruit, vegetables and livestock products that they do not themselves produce. Thus these smallholdings will produce a significant proportion of their total food requirements and reduce the proportion of their income that they have to spend on food.

Many of these holdings will also produce a small surplus to sell, and although the individual quantities are small, together it does have a noticeable effect on the market. Taking the example of the dairy sector, even households with just one milking cow, who meet their own needs first and then sell any remaining surplus, make a significant contribution to the dairies' overall milk supply and to the supply of cheese and other dairy products sold informally and at green markets.

#### Farms

The following table presents data for the "Farms" encountered in the survey. As noted earlier, the largest holdings had around 85 ha of cultivated land or 75 livestock units; there are some larger farms in BiH but they are relatively rare and none fell amongst the 3,055 households surveyed:

Farms > 3 ha &/or LSU							
OVERVIEW							
Share of:							
Households				13%			
Cultivated land				73%			
Total LSU				76%			
		LAI	ND				
Cultivated:	3.76 ha						
Arable	3.45 ha	87%	have	3.94 ha	in	2.5	parcels
Orchards	0.31 ha	25%	have	1.24 ha	in	1.2	parcels
Vineyards	0.00 ha	1%	have	0.08 ha	in	1.0	parcels
Grassland:	0.64 ha						
Meadows	0.51 ha	28%	have	1.82 ha	in	1.8	parcels
Pasture	0.13 ha	11%	have	1.15 ha	in	1.8	parcels
Other:	0.21 ha						
Woodland	0.16 ha	18%	have	0.89 ha	in	1.4	parcels
Fallow	0.00 ha	0%	have	0.00 ha	in	0.0	parcels
Farmyard	0.05 ha	43%	have	0.12 ha	in	1.0	parcels
Total land		4.62	ha		in	5.2	parcels
LIVESTOCK							
Cattle	4.23 LSU	5.3	head	71%	have	7.4	cattle
Pigs	1.32 LSU	4.4	head	50%	have	8.8	pigs
Sheep & goats	1.21 LSU	12.1	head	29%	have	41.8	sheep
Poultry	1.05 LSU	104.8	head	69%	have	151.1	poultry
Beehives	0.08 LSU	1.5	hives	5%	have	29.7	beehives
Total livestock				7.87 LSU			

Source: Rural Household Survey

- The average size of these holdings is 4.6 ha, and almost 90 % have some arable land, which typically accounts for half the overall area. Orchards and meadows are more common on these larger holdings, being found on 25 % and 28 % respectively, and almost one in five has some area of woodland.
- Land fragmentation becomes more of an issue in this group, with an average of 5.2 parcels each. Whilst not a big problem where the goal is mixed production for household needs, it does become an obstacle for farmers wishing to specialise and invest in machinery. And of course, the biggest fragmentation issue is the size of the farms themselves, with three quarters of all cultivated land in BiH being divided up into small farms each cultivating an average of just 3.8 ha. It is interesting here to look at the area breakdown within this group:

- Small farms cultivate 30 % of the land, with an average of 2.0 ha of cultivated land each;
- Medium farms cultivate 19 % of the land, with an average of 6.4 ha each;
- Large farms cultivate 24 % of the land, with an average of 22 ha each.

Thus, less than a quarter of the total arable land lies on the "large" farms that can even start to use modern machinery efficiently.

- Most of these farms are involved in livestock production, with around 70 % keeping cattle and/or poultry, half having pigs and just under 30 % keeping sheep or goats.
- The average cattle herd is 7.4 head, clearly a commercial operation, rising to 33 head on the "Large farms".
- The average value of 150 poultry is rather misleading, made up of many holdings that keep 10-30 poultry mainly for their own use, and a small number of farms with several hundreds or thousands of birds; the survey did not include any of the big commercial producers with tens or hundreds of thousands of chickens.
- Interpreting the pig numbers is difficult, as the data do not distinguish between piglets/fattening pigs and sows (each of which generates 20-25 piglets per year). However, the data do suggest that of those farms that keep pigs, most are producing on a small commercial scale of around 3-8 pigs; more than one family will consume but not specialised production. There are also a smaller number of holdings keeping 10-100 pigs as a serious commercial venture.
- Most of the sheep are found in medium-sized flocks of 20-60, with just a few producers having several hundred.
- Beekeeping remains a minority occupation, with that 5 % of farms that keep bees each having an average of 30 hives.

Almost all of these holdings will produce far more than one family can consume and so must be market-oriented, even though non-agricultural sources of income remain as or more important to most farming households.

## 3.3 Income from agriculture

There were a number of difficulties in obtaining reliable estimates of agricultural income, or indeed, total household income. The following sections present the best estimates available, based on 2,645 respondents who provided sufficient information on land area to indicate their farm type, and also provided sufficient information on their sources of income to allow an estimation of their overall and agricultural income.

## Agricultural income by farm type

The following chart shows the average monthly income generated from agricultural and from other sources, for each farm type:



Source: Rural Household Survey

- As might be expected, the amount and share of agricultural income increase with farm size.
- For all but the large farms, agriculture contributes a clear minority of overall household income for the group.
- Households without any agriculture at all were better off than all types of farm and smallholding, except for the large farms, which are noticeably more wealthy than average.

The income values and shares estimated for each farm type are shown in the following table (the figures for "Share from agriculture" are those that were quoted in the earlier textual description of farm types):

Farm type	Month	Share from		
	Agricultural	Non- agricultural	Total	agriculture
No agriculture	6 KM	814 KM	820 KM	0.7 %
Garden	4 KM	739 KM	743 KM	0.5 %
Smallholding	58 KM	666 KM	723 KM	8.0 %
Small	35 KM	688 KM	722 KM	4.8 %
Medium	48 KM	711 KM	758 KM	6.3 %
Large	79 KM	617 KM	696 KM	11.4 %
Farm	206 KM	585 KM	790 KM	26.0 %
Small	159 KM	595 KM	753 KM	21.1 %
Medium	197 KM	562 KM	759 KM	26.0 %
Large	798 KM	531 KM	1,329 KM	60.1%
All households	51 KM	718 KM	767 KM	6.6 %

Source: Rural Household Survey.

Overall, rural households derive 6.6 % of their income from agriculture, with this rising from under 1 % amongst households that declared little or no land or livestock<sup>16</sup>, to 60 % of total income on large farms. It is only these large farms that really depend on agriculture, with the small and medium farms averaging around a quarter of total income from agriculture.

<sup>&</sup>lt;sup>16</sup> How can a household with "No agriculture", i.e. zero values for both land and livestock, have any income from agriculture? One possibility is that they did in fact have some land or livestock, but declined to give details of them. Another is that the income from "Sale of own produce" was not in fact agricultural, but came from sale of wood, handicrafts, etc. A third is that the household had no or few livestock present on the day of the survey, but normally did keep livestock. Other possible explanations can also be envisaged.

#### Main source of household income by farm type

Averages such as those shown above can hide some important variations and exceptions, so the following chart shows how the households within each farm type are divided up between the seven income types.



Source: Rural Household Survey

- Households without any agriculture at all or just with gardens show a similar distribution to the sample as a whole: 50-60 % get most of their income from regular employment, whilst around 40 % depend on social benefits.
- As might be expected, dependence on agriculture increases steadily with farm size, progressively taking the place of both earned income and support payments.
- Even amongst the smallholdings, there are some that depend on agriculture for the majority of their income, though more than 90 % of all smallholdings depend on something else as their primary source of income.
- Something over a quarter of medium and large farms live mainly from agriculture, with a sizeable majority living from something else.
- The relatively small group of "large farms" has already been shown to have a significantly higher level of income than the rest of the sample, it also includes a very different distribution of household income types: rather few large farms depend on income from employment (and are probably too busy on the holding to hold down a full-time job), instead they tend to depend on support payments, agriculture, and mixed income sources.

The following chart turns the question round to ask "What size of farm is managed by those households that generate most of their income from agriculture?"



Source: Rural Household Survey

- The anomaly of the "No agriculture" and "Garden" household (i.e. households that declared little or no land or livestock yet then reported that most of their income came from agriculture) has already been discussed.
- Most (over 60 %) of those households that depend on agriculture manage large smallholdings or small farms, i.e. 1-10 ha/LSU.
- Although medium and large farms are more likely to depend on agriculture for their income, these are relatively few in number and so account for less than 15 % of all households with mainly agricultural income.
- Small and medium smallholdings are numerous, but because of their small size rather few of these households live from agriculture, and so these two groups together account for just over 15% of all households with mainly agricultural income.

If one were to try and define a "full-time commercial farm" as a household that managed at least 30 hectares &/or livestock units and generated more than 75 % of its income from agriculture (which is the kind of picture many people in western Europe have in mind when they think of a "farm"), it would capture less than 0.2 % of all rural households surveyed. Clearly, agriculture in Bosnia and Herzegovina must be looked at in a different light.

## 3.4 On-farm employment

The survey found that it is very rare for paid workers to be employed on farms or smallholdings, with just 0.5 % of rural households employing agricultural labour. Where workers were employed, it was an average of 3 people for 14 days, presumably for seasonal activities such as harvesting or fruit-picking. The average daily wage was 31 KM, or € 15.

Half of all employment was on smallholdings and small farms, with 17 % on large farms; although these are big enough to employ several people, there are too few large farms to create much employment overall. Around 22 % of employment was reported by non-agricultural households, suggesting that some respondents took account of non-agricultural labour when answering this question.

Overall it may be said that agriculture in BiH is very much a family business, largely outside the formal labour market.

## 3.5 Methodological notes on agricultural data

#### Land

- The survey asked both about the land that people *owned* and about the land that they *used*; this analysis focuses on the use of land by rural households.
- 6.3 % of respondents said that they cultivated land, but did not provide any information on the area used; these have been excluded from the analysis and are not taken into account when calculating percentages.
- The total area of used land is always calculated as the sum of individual land-use categories, even when this differs from the quoted overall total of land used.
- The category of "arable land" includes vegetables, field crops and sown forage crops, but excludes fruit orchards, vineyards and permanent grassland;
- "Cultivated land" is calculated as the sum of arable, orchards and vineyards. It excludes fallow and unused land, as well as non-cultivable land (woods, water and the farmyard itself). Neither meadows nor pastures are included in "cultivated land", since their contribution to agricultural output is generally captured through the number of livestock.

## Livestock

- The survey recorded the total number of cattle, pigs, sheep/goats, poultry and beehives on the holding on the day of the survey (this was carried out in the first three weeks of April, a time when the pig population would be close to its annual low, sheep numbers just starting to fall from their annual high, and cattle and poultry numbers reasonably typical for the year);
- Some households reported that they kept certain kinds of livestock but did not have any of them on the holding on the day of the census. This is relatively common, given the seasonal nature of livestock production and the fact that poultry are often reared in shifts interspersed by rest periods to clean and disinfect the housing. Therefore these households have been considered as keeping livestock and used when calculating average livestock numbers for each farm type;

- In order to combine different kinds of livestock, they have been converted to Livestock Units (LSU), based on the standard Eurostat Methodology<sup>17</sup>. One difficulty is that Eurostat assigns different LSU values to different types and ages of cattle, pigs etc. but the survey did not record either age or sex of livestock. Therefore "typical" values were used per animal recorded, as shown in the following table;
- The survey also recorded beehives, which do not have a standard LSU value. One possible treatment is that used in Bulgaria, where the minimum threshold for an "agricultural holding" is set at, *inter alia*, 5 breeding sheep, 50 laying hens or 10 beehives<sup>18</sup>, implying that one beehive is equivalent to about 0.05 LSU, so this value that is used in the analysis;

Species	Eurostat value	Value used here
Cattle	0.400 (calves) – 1.000 (dairy cows) "Other cows, 2 years old and over" = 0.800	0.80
Pigs	0.027 (piglets) – 0.500 (breeding sows) "Other pigs" = 0.300	0.30
Sheep & goats	0.100	0.10
Poultry	0.007 (broilers) – 0.014 (laying hens)	0.01
Beehives	No value	0.05

• The final LSU values used are as follows:

Source: Rural Household Survey

#### Income

- There was some uncertainty in interpreting the income data from the survey, since some activities such as "Income from employment", "Sale of produce" or "Providing services" could be agricultural or non-agricultural. "Agricultural income" was therefore taken as the sum of income derived from "Sale of own produce" and "Income from registered agricultural activities".
- Many households declined to give details of their income, and so the shares of household income quoted in this section are calculated only from those respondents that provided details of at least some part of their income. However, there are still many anomalies in the data, such as the fact that over half of the large farms declared no income from agriculture, despite giving details of other sources of income. It was not possible to second-guess how much income these households really made from agriculture, so they were classified into income types on the basis of the data that were available.
- In considering the contribution of agriculture to household income, it is important to note the difference between *gross income* (i.e. the total value of produce sold, which is what was recorded in the survey), and *net income* (after subtracting costs of feed, fertiliser, fuel etc.). As an example, the EU-funded project on "Agricultural

<sup>&</sup>lt;sup>17</sup> <u>http://epp.eurostat.ec.europa.eu/statistics\_explained/index.php/Glossary:LSU</u>

<sup>&</sup>lt;sup>18</sup> <u>http://epp.eurostat.ec.europa.eu/statistics\_explained/index.php/Farm\_structure\_in\_Bulgaria</u>

Information and Statistics" produced some preliminary gross-margin budgets from its pilot FADN<sup>19</sup> survey, which indicate the ratio of gross margin to total sales for medium to large farms (net profit is always smaller than gross margin, since additional fixed costs must be taken into account):

- Dairy: Gross margin = 31 % of total income
- Sheep: Gross margin = 69 % of total income
- Pigs: Gross margin = 41 % of total income
- Maize: Gross margin = 70 % of total income
- Wheat: Gross margin = 72 % of total income
- Barley: Gross margin = 53 % of total income
- As a very rough guide, it might be assumed that for farms using their own land and labour, net income is something around half of total sales value.

#### Main conclusions of the Rural Household Survey on households and agriculture

- Just over half of rural households (51 %) have no more involvement with agriculture than their urban or suburban counterparts, with over a third (36 %) having no agricultural production at all.
- More than a third (36%) of rural households operate "smallholdings", producing a significant share of their own food requirements, but with a relatively small involvement in agricultural markets. The net cash income they generate from agriculture represents just a few percent of total household incomes, but the food they produce has a significant income-saving effect in addition to this.
- Around 13% of rural households may be considered as full- or part-time farms, producing significant quantities for sale. However, even this group obtains more than three-quarters of household income from non-agricultural sources (mainly regular employment and social benefits), and so is more dependent on the non-agricultural economy and on social policies than on the agricultural economy and its policies.
- Less than 1 % of households would typically be classified as "commercial farms" and be targeted by IPARD measures to improve agricultural production and marketing. This is the only group of households for which agriculture contributes more than half of gross income.

## 4 Training and advice

The Rural Household Survey asked about usage of training, advisory and information services. The section started off by asking specifically about agricultural training, and so it may be assumed that respondents treated all questions as relating to agriculture.

<sup>&</sup>lt;sup>19</sup> FADN (Farm Accountancy Data Network) is the EU system of measuring farm incomes across all Member States, and is being introduced by all potential members, including BiH.

#### Agricultural advisory services in Bosnia and Herzegovina

A recent EU-funded sectoral study in BiH<sup>20</sup> looked at the state of agricultural extension and reported that:

One of the earlier EU support projects helped to set up systems of agricultural extension in each entity. After completion of the project, RS continued with an entity-level system whilst FBiH transferred the responsibility – along with the extension staff – to the canton level. Brčko District employs three advisors ("senior expert associates" in crop production, fruit production and cattle production) within the Department for Agriculture, Forestry and Water Management. The general feedback from stakeholders, in individual discussion as well as in the formal SWOT workshops, is that extension is one of the weak points within the agricultural system, particularly in FBiH.

Some recent support has been provided by the World Bank, and in 2010 both entity governments adopted their own mid-term development strategies for extension services in agriculture. The strategy for RS envisages that by 2015 twenty new specialist consultants and 74 primary agricultural advisers will be employed, with extension being delivered through both public and private extension services. The public advisory service is financed from the budget, and private services from their own resources and revenue generation, and they both need a license for the provision of advisory services.

## 4.1 Agricultural training

The following chart shows the respondents' frequency of participation in agricultural training events, by entity:



Source: Rural Household Survey

Overall participation in training was very low, with just 10 % of respondents attending even infrequently. There were significant differences between entities, with 16 % of respondents in RS participating in training, as opposed to 7 % in FBiH.

<sup>&</sup>lt;sup>20</sup> Meat and dairy sector study for the IPARD programme in Bosnia and Herzegovina, FAO, 2012.

Those who did attend agricultural training sessions were asked what they saw as the main drawbacks or limitations of this training; more than one answer could be given:



Source: Rural Household Survey

Distance to the training venue was the most common obstacle, mentioned by 44 % of trainees. Next came the time involved (38 % of respondents), which will in part depend on the distance travelled.

The training venue and price were each mentioned by around a quarter of trainees, whilst the training itself – its approach and content – were only seen as drawbacks by 12-15 % of participants.

## 4.2 Agricultural advice



The following chart shows how often respondents met agronomists and other agricultural advisors:

As with training, meetings with agricultural advisors were relatively uncommon, with just 10 % of respondents having any contact with advisory services. Once again there was a marked difference between entities, with 15 % of respondents in RS meeting advisors, compared to 8 % in FBiH – an outcome that might be expected given that RS has a public farm advisory service whilst FBiH does not as yet.

Source: Rural Household Survey

## 4.3 Use of information

The main sources of information used by respondents are shown in the following chart; more than one source could be mentioned:



Source: Rural Household Survey

Television programmes are by far the most common source of advice, mentioned by almost 80% of respondents. Farmers' associations come in as a distant second, at 15 %, whilst magazines and books were listed by 10 % and 4 % of respondents, respectively. Internet, which is increasingly the preferred medium of organisations wishing to disseminate information, was listed by just 8 % of all respondents.

This suggests that if agricultural information is to be tailored to the needs of the target audience, rather than to the convenience and habits of the advisory organisation, it needs to work actively with the television companies.

The UNICEF "Multi-Indicator Cluster Survey" or "MICS" confirmed that television is watched almost universally in both urban and rural areas, and also showed that urban dwellers were around 20 % more likely to read a newspaper regularly, whilst rural inhabitants were around 10 % more likely to listen to the radio than those in urban areas. However, newspaper reading (and to a lesser extent, radio listening) correlate much more strongly with level of education than with rurality. Television is a common denominator, watched equally by young and old, men and women, urban and rural, educated and uneducated.



The kinds of information most commonly sought are shown below:

Source: Rural Household Survey

More than half of respondents said that they sought general information on agricultural matters, which would tie up with television being their main information source. Other forms of information – technical, market and meteorological – were each listed by around 15 % of respondents.

## 4.4 Factors affecting use of training, advice and information

## Farm type

It is important to bear in mind here that the majority of rural residents are *not* farmers: the data on land holdings show that:

- Just over half of rural households (51 %) have no more involvement with agriculture than their urban or suburban counterparts, with over a third (36 %) having no agricultural production at all. Around 15 % have a vegetable garden and some of these keep a few chickens for their own use; these households may be interested in the weather forecast, and perhaps in information about plant and animal pests and diseases, but they have little involvement with agricultural markets or new technologies, and hence a rather limited demand for information.
- Around 36 % of rural households manage a smallholding of 0.1-3 hectares, sufficient to produce crops and livestock for their own needs and the occasional surplus for sale. These households will have some interest in agricultural markets and technologies, but agriculture usually makes a minority contribution to household income and so they may not be strongly motivated to seek out new knowledge.
- Around 13 % of rural households manage more than 3 ha &/or livestock units and may be considered as full- or part-time farms, producing significant quantities for

sale. These households require the full range of agricultural information and have a clear financial stake in improving their farming performance.

These assumptions are borne out by the usage of training and advice by different farm types:



Source: Rural Household Survey

The proportion of households participating in training or seeking advice rises consistently with increasing agricultural activity, from around 2 % of households with little or no agriculture, to 12 % of smallholders and 22 % of farmers, with almost 30 % of large farms seeking training and advice. Training and advice are very strongly correlated, with 80 % of households participating in training also consulting advisors, and 80 % of those who consult advisors also participating in training.

The nature of the information sought also varies with farm type, and the following chart shows – for those households which did use agricultural information – what kind of information they most often sought:



Source: Rural Household Survey

As holdings become larger they are more likely to seek technical or market information, with two-thirds of large farms saying that this was the kind of information they most often requested.

These two charts present a rather more positive picture than the overall finding that only 10 % of rural households use agricultural training and advice, as they show that the advisory services are more effectively targeting and reaching the larger producers where their advice and training will have most impact. However, there is still very considerable room for improvement as the large majority of farmers and smallholders do *not* currently receive training or advice, or seek out technical and market information.

## Education and employment

Neither education level nor employment status had any consistent impact on respondents' use of knowledge services, except that:

- those with high-school education were more likely to use the written media of books and magazines, but no more likely to use the internet;
- those with only primary education or no education were very unlikely to have regular contact with advisors.

The main age-related effect was that under-45s are twice as likely to seek information from the internet than are the older generation.

#### Income

When it came to household income, there was a clear distinction between those earning more than 1,500 KM per month and all lower income brackets:

- Wealthier households were over 3 times more likely to attend training sessions and over 4 times more likely to meet with advisors;
- They also drew their information from different sources, being 7 times more likely to consult books and 3 times more likely to use a farmers' association. Wealthier households also made more use of the internet (70 % more frequent) and magazines (40 % more frequent), and were 10 % less dependent on television;
- The wealthy households also differed in the kinds of information they sought, being 70 % more likely to request technical information and 50 % more likely to use market information, whilst less often seeking general or meteorological information.

This begs the question of causality: are wealthier households better placed to access and use information services, or are they wealthier *because* they participate more in training and make more use of information and advice? Given that most of the sources of knowledge cost little more than time, income should not be a direct barrier to accessing these services; it therefore seems that it is the use of knowledge – and the proactive attitude that this implies – which contributes to households' wealth.

## 5 Education

## Education system in BiH

The education system in BiH includes at least eight years of compulsory primary education. Republika Srpska has moved entirely to a 9-year system, whilst in the Federation some cantons still have eight years and some have nine. The following text describes the 9-year system; the only difference in the 8-year system is that children start school one year later, around the age of 7 instead of 6, and the second stage of schooling lasts only four years.

For the first four years<sup>21</sup>, around 6-10, one teacher has full responsibility for a class and the pupils learn all their subjects from that one teacher. In the smallest village schools there may be just one class where all five years sit together, breaking up into smaller groups for age-specific activities. The next five years, 10-15, are more rigorously structured by age and subject, with different teachers covering different subjects and teaching only one year at a time.

Looking just at the numbers shows that a village of as few as 200-300 inhabitants could generate a class of around fifteen 6-10 year olds and so support a very small "4-year school". Most villages in BiH reach this threshold and so the youngest children normally have a school close by.

<sup>&</sup>lt;sup>21</sup> The exact age depends on when in the year the child was born, so some children will start school at the age of 5 instead of 6 and finish each stage of schooling one year younger than described here.

The increased specialism of the next five years obviously requires considerably more teachers and hence the school must be reasonably large, serving a population of at least a few thousand inhabitants; usually these are "9-year schools", covering the first four years as well. A lot of BiH villages are too small to justify such a large school, so one school will cover a few neighbouring villages, or a town and its surrounding area. This means that, from the age of 10 onwards, many rural children have to travel to school every day. In some cases there is a school bus service, but from the smaller villages it may be up to the parents to arrange the transport, and there are still stories of children who walk a few kilometres to and from school every day, walking in small groups through the countryside to a neighbouring village<sup>22</sup>.

Whilst the first eight or nine years of schooling are compulsory for all children, the psychological and practical barrier of travelling to school can lead to some drop-outs at the age of 10. This is most of a problem amongst groups that are already at increased risk of dropping out of school (Roma, children from families in need, children of parents with a low level of education, and children with special needs) and is something that the authorities and organisations like UNICEF are working hard to address. Amongst agricultural households there is always work to be done, which can encourage families to pull their children out of school to help with the livestock and other chores, whilst in the Roma culture girls around this age may be expected to help care for their younger siblings and to prepare to become mothers themselves<sup>23</sup>.

After the age of 15, each child faces the choice of whether to leave school and seek work, or to move on to the stage of education in either a 3- or 4-year vocational "middle school" or a more academic 4-year high school ("gimnazijum"). Teaching at this level is specialised by subject or vocation. In larger town there will be separate schools, such as a "Mathematical high school" and a "Machinery-technical middle school" and children will choose to which of these schools they want to apply. In a smaller town, one school will offer a more limited range of subjects and children have to choose between the options available, or make arrangements to live in a larger town where they can study their preferred subject.

This means that rural children face a second travel barrier at the age of 15. As this next stage of education is not compulsory, some rural children choose to end their education at this point, whilst their urban counterparts move on to a middle or high school together with their friends. A recent UN agencies' survey<sup>24</sup> found that more than 30 % of children who decided not to go on to secondary education cited the distance to school as the main reason, making this second only to behavioural problems as a cause of shortened schooling. As well as this pressure to cut short education in rural areas, there is also evidence to suggest that the outcomes of primary education are lower in rural areas than in towns<sup>25</sup>.

The final stage of education consists of a range of technical colleges and university faculties, with each subject being taught in only a few places in the whole country. Unless a child lives

<sup>&</sup>lt;sup>22</sup> UN/UNICEFs report on "Non-enrolment and school dropout" in BiH, 2011, found that some children have to walk as much as ten kilometres to school through difficult and sometimes dangerous terrain: http://www.undp.org/content/dam/bosnia and herzegovina/docs/Research&Publications/Democratic%20Go vernance/Non-Enrolment%20and%20School%20Dropout%20Study/Dropout EN-1.pdf

<sup>&</sup>lt;sup>23</sup> "Situation Analysis of Children and Families in Macedonia"; UNICEF, 2001.

<sup>&</sup>lt;sup>24</sup> "Non-enrolment and school dropout" in BiH; UN/UNICEF, 2011: op cit.

<sup>&</sup>lt;sup>25</sup> See the OECD "Programme for International Student Assessment" (PISA), which covers 70 countries worldwide, not yet including BiH: <u>www.oecd.org/pisa/aboutpisa/</u>

in a big city or happens to be close to the college or university of their choice, it is usual for them to move away from home and stay in student accommodation during term time; thus both rural and most urban children face similar barriers at this stage of education.

Across BiH as a whole, the average years of schooling achieved is just 8.7. This places BiH as one of the worst countries in the region, with only the former Yugoslav Republic of Macedonia showing a lower result, at an average of just 8.2 years of schooling (see the "Human Development Indicators", Annex 1).

It is therefore clear that overall educational achievement in BiH is low compared to the region, there are several possible reasons why rural children may choose to drop out of education, and there is survey evidence to show that travel distance is an important factor in whether or not children proceed to secondary education. But does this in reality translate into a lower level of education in rural areas?

#### Educational achievement in rural areas and nationally

Unfortunately there is no one survey that gives comparable data on educational achievements in both rural and urban areas of BiH, so it is necessary to compare different surveys; the following chart shows the results of the 2011 Labour Force Survey ("LFS", for all of BiH), and the 2012 Rural Household Survey ("RHS", for people living outside of urban settlements):





Source: Labour Force Survey, 2011; Rural Household Survey, 2012

This graph indicates that the rural working age population is better educated than the labour force as a whole, and hence significantly *better* educated than their urban counterparts, which is the opposite of what would be expected according to the theory and survey results set out in the previous section. It also goes against the general findings of the OECD "Programme for International Student Assessment" (PISA)<sup>26</sup> that the outcomes of primary education are poorer in rural areas, and the conclusions of an EU study on "Poverty and Social Exclusion in Rural Areas" which found that "*Statistical information on educational attainment in EU countries shows higher proportion of adults with low education level in rural areas across all countries (apart from Germany). This share is even higher (around 50%) for some Mediterranean countries (Greece, Spain, Italy and Portugal)<sup>27</sup>."* 

There are always difficulties in comparing data from different surveys done at different times by different organisations using different methodologies, so the apparent contrast between the RHS and LFS findings should perhaps be treated with caution.

Data from the Rural Household Survey found the following educational results for the economically-active rural population:

- Primary education and above: 96 %
- Secondary education and above: 78 %
- University and higher education: 10 %

Official statistics show a secondary school enrolment rate of 89 % for BiH in 2010<sup>28</sup>, but many of those children who start secondary school either drop out or fail to graduate<sup>29</sup>. The head of the employment bureau in one of the western Balkans countries with high youth unemployment was quoted as saying, "*Give me someone who can speak English and use a computer, and I will find them a job*"<sup>30</sup>. Whilst language and computer skills are increasingly widespread amongst the young, these skills are usually taught at secondary school and beyond, so the 22 % of rural BiH youth who do not proceed to or complete secondary education are seriously limiting their options for future employment.

In terms of gender, both the Labour Force Survey and the Rural Household Survey found that males are significantly better educated than females, with around 18 percentage points

<sup>&</sup>lt;sup>26</sup> OECD "Programme for International Student Assessment" (PISA), which covers 70 countries worldwide, not yet including BiH: <u>www.oecd.org/pisa/aboutpisa/</u>

<sup>&</sup>lt;sup>27</sup> Poverty and Social Exclusion in Rural Areas, European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities 2008, p. 16

<sup>&</sup>lt;sup>28</sup> <u>http://www.unicef.org/infobycountry/bosniaherzegovina\_statistics.html</u>

<sup>&</sup>lt;sup>29</sup> The UNICEF report on "Non-enrolment and school dropout" in BiH, 2011, quotes on p.18 a survey carried out by the "Centre for Civic Initiatives" in 2009, showing the way in which children tend to drop out through the successive years of secondary education:

http://www.undp.org/content/dam/bosnia\_and\_herzegovina/docs/Research&Publications/Democratic%20Governance/Non-Enrolment%20and%20School%20Dropout%20Study/Dropout\_EN-1.pdf

<sup>&</sup>lt;sup>30</sup> "Situation Analysis of Children and Families in Macedonia"; UNICEF, 2001.

more males than females completing secondary education (LFS found 57.5 % male and 38.9 % female; RHS found 67.3 % male and 50.3 % female).

The new information provided by the UNICEF "Multi-Indicator Cluster Survey" or "MICS" just as this study was being finalised, showed that rural areas had slightly higher levels of entry to and attendance at both primary and secondary school, compared to urban areas. The only areas in which rural areas showed any disadvantage was in the markedly lower proportion of children who received any pre-school education, a slight (and probably not significant) tendency for rural children to drop out of primary school after the sixth grade, and a very slightly lower level of literacy amongst young men (99.9% compared to 100.0%)<sup>31</sup>.

## Effect of education on rural employment



The following graph shows the effects of education on employment prospects in rural areas:

Source: Rural Household Survey

For the potential rural labour force (excluding pensioners, housewives, students, people on military service and those incapable of work), being without any formal education seriously reduces employment prospects: only 39 % of this group was formally employed, with 42 % registered unemployed and 20 % either self-employed or working informally at piece-work, seasonal work or assisting family members on a farm or other business. It is probable that many of those recorded as having "No education" did complete at least the first four or five

 $<sup>^{31}</sup>$  There was actually a larger literacy difference amongst young women – 99.1 % in rural areas compared to 99.9 % in urban – but there was considerably variation in the data and so the difference is statistically not at all significant.

years of primary education, but dropped out of school before receiving their "diploma for completion of primary education".

Rather surprisingly, completing primary school brings almost no employment benefit compared to being without any formal qualification, though these data do not record whether people with primary education were paid any more than those without.

The benefits of education start to become apparent when someone completes secondary school, with employment rising to 47 % and unemployment falling to 36 %, and become even more pronounced with higher or university education, when employment reaches 61 % and unemployment drops to 28 %. The role of self-employment and informal employment also declines with increasing education, so that most graduates are either formally employed or registered unemployed, with relatively few working for themselves or on less formal arrangements.

## Effect of education on household income

The following chart looks at how household income varies with the educational level of the head of household:



Source: Rural Household Survey (implausible incomes of less than 50 KM per month excluded).

These data show that education is not only important in terms of getting a job, but has a big impact on earning potential, with households whose head had completed higher education earning around twice as much as other households.

## Conclusion

- Education is important in rural areas, significantly increasing someone's chances of obtaining a job and dramatically increasing household income;
- Overall levels of education in BiH are rather low compared to the region and the rest of Europe, and there is clear room for improvement;
- There is good reason to assume that school attendance and educational achievement are somewhat lower in rural areas, as has been found to be the case in most other countries, but the data are not yet available to draw quantitative conclusions on the extent to which this applies to BiH.

## 5.1 Education and gender

The ILO Working Paper 4/2011 on "Gender and Employment in Bosnia and Herzegovina - A country study<sup>32</sup>" states that women living in urban settlements tend to have almost twice as many years of education as their rural counterparts, based on a survey conducted in BiH for that study. The following graph shows the highest level of education received by women in rural and in urban areas<sup>33</sup>:



Source: ILO working paper on "Gender and Employment in Bosnia and Hezegovina", 2011.

Rural women figure more heavily towards the left of the graph, with low levels of education achieved, whilst more urban women have higher levels of education.

<sup>&</sup>lt;sup>32</sup>http://www.ilo.org/wcmsp5/groups/public/---dgreports/--gender/documents/publication/wcms\_170832.pdf

<sup>&</sup>lt;sup>33</sup> The report does not make clear what definition of "rural" was used, but it probably uses the "settlement approach", treating designated urban settlements as urban and everything else as rural.



The following chart shows a very similar picture for men:

Source: ILO working paper on "Gender and Employment in Bosnia and Herzegovina", 2011.

The data imply that rural women average just under 9 years of education, as compared to at least 11 in urban areas (a quarter higher in urban areas, not twice as high), and also show the rural men averaged around 10 ½ years of education compared to 12 ½ in urban areas. There are therefore two different things happening:

- People in rural areas have on average around 2 years less education than those in urban areas, irrespective of sex;
- Females have around 1 ½ years less education than males, irrespective of rurality;

There is also a small gender-rurality interaction, with women in rural areas tending to have even more educational disadvantage than women in urban areas, equivalent to around half a year less education. The notion that children in rural areas – particularly girls – receive at least two years less education than their urban counterparts appears to contradict several of the previous data showing that overall school attendance in rural areas is very similar to that in urban areas. The explanation appears to lie in the age of respondents, as shown by the following graph from the Rural Household Survey (for rural inhabitants only):



Source: Rural Household Survey, 2012

Overall, females achieved 15 % fewer years of education than males (almost identical to the 16 % difference found in the ILO study), but this varied greatly with age:

The columns labelled "60", "70" and "80" (i.e. respondents aged 55-86 at the time of the survey) show a very big gender bias in education, with females receiving on average 35 % fewer years of education than males<sup>34</sup>. However, for more recent cohorts, now aged 16-35, the educational disadvantage of girls has dropped to less than 4 %.

This shows that gender discrimination in education was a big problem in the 1940s, '50s and '60s; its effects still persist in the members of those generations who are still alive, but has been very much reduced in today's education system.

The Rural Household Survey does not allow an urban-rural comparison by age, but it seems quite likely that problem of poor educational achievement in rural areas was also severe in the middle of the 20<sup>th</sup> century and is now much reduced. A comparison of data from two successive Multiple Indicator Cluster Surveys shows that the situation of rural education

<sup>&</sup>lt;sup>34</sup> The final column, for respondents aged 86-95, represents just one woman and seven men, and so is not a reliable basis for any gender comparison.

continues to improve, with the children attending secondary school rising markedly from 74 % in 2006 to 92 % in 2011-12.

# 6 Access to infrastructure and services

The Rural Household Survey asked a number of questions about access to infrastructure and public services – two issues where the greater physical distance between people in rural areas might be expected to have greatest impact:

## 6.1 Infrastructure

## Drinking water

The following chart shows the sources of drinking water available to rural households; respondents could list more than one source<sup>35</sup>:



Source: Rural Household Survey

Overall, 83 % of rural households had indoor water taps. This figure was notably lower in RS (67 %) than in either FBiH (91 %) or BD (93 %).

Around a quarter of households had outside taps and/or wells as their primary or backup source of water. On average, households had to travel 200 metres to reach these sources of water.

<sup>&</sup>lt;sup>35</sup> In Brčko District many households noted that they had drinking water in their yard and access to wells and public water taps, in addition to their indoor taps. However, this probably reflects the way the survey was conducted there rather than any significant difference between BD and the two large entities.

There was no clear correlation between household income and source of water, other than that the wealthiest households were less likely to list outside or public taps as their water source.

The UNICEF "Multi-Indicator Cluster Survey" or "MICS" found that 81.4 % of rural households had piped water from a water supply company to the inside of their home, as compared to 90.6 % of urban homes; in that survey the situation was better in RS than in FBiH, i.e. the reverse of the picture from the Rural Household Survey. When all "improved water sources" were taken into account, including protected wells and boreholes, then 99.5 % of rural homes and 99.7 % of urban homes had access to an improved water source, with the difference between urban and rural not being statistically significant. In 93.8 % of cases, the improved water supply was on the premises, compared to 94.7 % of urban homes.

The 2005 National Human Development Report on "*Better Local Governance*" found that rural areas had very low levels of access to mains drinking water (32 % of households) and sewerage (25 % of households). The Rural Household Survey data suggest that the situation has improved markedly since then. The 2005 study also commented on another aspect of infrastructure: the frequent lack of proper rubbish collection and disposal in rural areas; this was not covered by either the Rural Household Survey or the Multiple Indicator Cluster Survey, so it is not known how the situation has developed since then.

#### Sewerage



The following chart shows the principal source of sewerage used by the household<sup>36</sup>:

Source: Rural Household Survey

<sup>&</sup>lt;sup>36</sup> Many rural houses have an old outhouse in the yard which is still used when working outside; these secondary facilities were not included in the table, so the 3% of households that selected "Outhouse" are understood to have this as their only toilet.

The most common form of sewerage is a septic tank, used by 62 % of households. Some 32 % of rural households are connected to public sewerage, and just 3 % have to use an outside toilet or "outhouse".

As with water supplies, there was no correlation between household income and form of sewerage – connection to a public sewer depends on where you live, not on how much money you have.

#### Heating

The following chart shows the principal source of heating used by the household:



Source: Rural Household Survey

Wood, coal and other solid fuels are by far the most common form of heating, with electricity a distant second.

Only 0.3 % of households used gas as their primary source of heating, though bottled gas is frequently used for cooking (the data from the "Multi-Indicator Poverty Survey" quoted in section **Error! Reference source not found.** showed that just under 12 % of rural households in BiH were dependent on "dirty" solid fuels for cooking; the most common arrangement is that wood or coal is used for heating, and gas or electricity for cooking).

No other forms of heating were mentioned.

Here there is a correlation with income, with those households earning more than 1,500 KM per month being more likely to use electricity instead of solid fuel (12 % heat with electricity).

#### Information and communications technology

The following chart shows households' access to various forms of information and communications technology:

![](_page_56_Figure_2.jpeg)

Source: Rural Household Survey

Two-thirds of rural households live in areas covered by a mobile phone network. This share rose from 63 % of households earning less than 500 KM per month, to 78 % of those earning more than 1,500 KM. This might reflect the fact that wealthier families tend to live closer to towns (though the lack of any correlation between income and either water supply or sewerage casts doubt on this), or may be due to mis-interpretation of the question to mean whether or not the household *owned* a mobile phone.

Half of all rural households own a personal computer, and this variable shows the strongest correlation with income, rising from 42 % of the poorest families to 85 % of the wealthiest.

Overall, 44 % of households had an internet connection (i.e. 87 % of those who have computers), and in 90% of cases this was a broadband connection via cable or ADSL. Many modern services, such as internet banking, really require a broadband connection to work properly; at present just under 40 % of rural households have reliable access to such services.

Some 27 % of households had one or more "Facebook" accounts; both this and internet access increased markedly with income.

The UNICEF "Multi-Indicator Cluster Survey" or "MICS" measured computer and internet use amongst men and women aged 15-24 in both rural and urban settlements. The large majority (90 %+) of young people in all areas had experience of using both computers and the internet, with usage tending to be 3-4 percentage points higher in urban areas. When it came to regular usage the urban-rural difference was more pronounced, with over 90 % of young urban people used a computer and the internet at least once in the preceding month, compared to around 80 % in rural areas. However, there was a far stronger correlation with education level than with rurality.

## Electricity

Neither the Rural Household Survey nor the UNICEF Multi-Indicator Cluster Survey recorded what proportion of homes were connected to mains electricity, but the "Multi-Indicator Poverty Index" or "MPI" found that inadequate electricity supply made a small and equal 1.2 % contribution to the overall MPI score for both urban and rural households.

## 6.2 Public services

The following chart shows the distance to the nearest bank, post office and other public services<sup>37</sup>:

![](_page_57_Figure_4.jpeg)

Source: Rural Household Survey

The most local service is usually a shop, with just over a quarter of rural households having a (probably small) shop within 100 metres, though 18 % have to travel more than 3 km to their nearest shop.

Next nearest is usually the primary school, with 61 % of families living within 3 km of the nearest school.

Just over 40 % of households live within 3 km of a local clinic (or "ambulanta") but only 10 % are within 3 km of a hospital.

When it comes to administrative matters, some 38 % of households live within 3 km of a post office, but only 20 % have a bank within this distance. Thus the rural post office plays an important role for financial transactions such as paying bills and sending and receiving money.

<sup>&</sup>lt;sup>37</sup> Excluding responses of "Don't know".

# 7 Social activities and attitudes

The final section of the Rural Household Survey looked at how people viewed their life in rural areas, and how they saw their future.

## 7.1 Social and leisure activities

## Social life

The following chart shows where rural inhabitants most commonly meet to socialise:

![](_page_58_Figure_5.jpeg)

Source: Rural Household Survey

None of the named meeting places was particularly popular, with the cafe being most often frequented. As might be expected, social life changes with age:

- The proportion of respondents listing "cafe" as their primary meeting place declined steadily from 60 % for 15-24 year-olds, to 6 % for over 65s;
- Conversely, the importance of the church or mosque rose from 5 % for the youngest age group to 24 % for the oldest. The role of the shop as a meeting place also increased with age, from 2.5 % of youth to 12 % of the older generation.

Internet cafes were not listed as a major meeting place by any age group; even amongst the youngest age group only 2.5 % listed this as their main social venue.

Unless there is some major meeting place that did not occur to the interviewers, these data suggest that much socialising is done at home.

The 2009 National Human Development Report on *"Social Capital: The ties that bind"* shed some light on social relations in rural areas, finding that rural inhabitants were considerably less likely to belong to any kind of formal association (15 % of rural respondents, compared to 22 % in urban settlements), though with most of the difference being between the two biggest cities (Sarajevo and Banja Luka) and the rest of the country. A statistical analysis of the survey results, presented in Annex 3 of that report, showed that rural respondents

tended to have more trust in their family and in other ethnicities than did their urban counterparts, though the only measure to achieve statistical significance was the "Family and neighbourhood dimension", which measured how frequently people spent time with friends, family, neighbours and people from different backgrounds.

## Leisure time

![](_page_59_Figure_2.jpeg)

The following chart shows the main leisure-time activities in rural areas:

Source: Rural Household Survey

Watching television is clearly the dominant activity, occupying most leisure time for over two-thirds of respondents. In second place comes socialising with friends, listed by almost one quarter as their main leisure-time activity.

Despite widespread access to the internet, relatively few respondents listed it as the major use of their spare time.

Playing sport, as opposed to watching it on television, has a very low appeal, with just 0.4 % of respondents listing it as their main leisure activity.

The information on both "Social life" and "Leisure time", backed up by the "Social Capital" report, indicate that social life in rural areas is more based around home and informal contacts, rather than around particular venues or organised social and sporting activities.

## 7.2 Attitude to EU accession

Respondents were asked how they expected EU accession to change things in the rural areas of BiH, first with a general question about whether EU accession would make farmers better off, and then with a list of specific changes that accession might bring:

## Potential benefits for farmers

When asked whether they considered that entering the EU would make farmers better off, something less than half (43 %) agreed with the statement, though this varied with the respondent's status:

- 50 % of employed people agreed, compared to 38 % of unemployed and inactive;
- Support for the statement increased with income, rising from 40 % amongst households earning less than 500 KM per month, to 57 % amongst those earning more than 1,500 KM.

Thus, it seems that those who are already better off see EU accession as more likely to bring improvements.

#### Expectations of change

Respondents were asked to rate how they thought EU accession would change their lives – on a scale from "Considerably deteriorate" to "Considerably improve" – in relation to six specific areas:

- Technical equipment
- Linking people into cooperatives
- Rural infrastructure (roads, water supply, sewage, etc.)
- Agricultural infrastructure (irrigation, markets, veterinary-insemination centres, etc.)
- Purity of air, water and the environment
- Knowledge of farmers about agricultural production and marketing

The results are shown in the following chart:

![](_page_60_Figure_12.jpeg)

Source: Rural Household Survey

- The general pattern of responses was similar for each issue: the most common response was that things would remain the same, followed by the belief that things would partially improve. Two more outlying views – that things would considerably improve or partially deteriorate – were each expressed by around 10% or respondents, whilst only around 2% believed that things would considerably deteriorate. Overall this view might be described as "cautious optimism".
- Across the different issues, the greatest optimism was for "Technical equipment", where just over half (51%) of respondents believed that things would partially or considerably improve. The greatest pessimism was in relation to the environment, where 39% expected improvement, 48% no change, and 13% deterioration.

Views also varied with age, as shown by the following chart were responses have been aggregated into an overall "Hope Score" using:

- "Considerably improve" = +2
- "Partially improve" = +1
- "Stay the same" = 0
- "Partially deteriorate" = -1
- "Considerably deteriorate" = -2

![](_page_62_Figure_0.jpeg)

The scores from all six issues were averaged together to generate the final scores shown in the chart:

The first three age groups, covering from 14 to 44 years of age, all showed a similar score almost halfway between "*No change*" (0) and "*Partially improve*" (1). Optimism then tailed off sharply with increasing age, so that two out of three pensioners expected "*No change*" and just one of three expected "*Partial improvement*".

The process of economic transition, which has already begun in BiH but will be accelerated by EU accession, does tend to bring initial pain for eventual gain. The younger generations will pass through the difficult years and enjoy the results of a more affluent and open society, but older citizens may spend the rest of their lives in the "pain" phase and not live to see the real gains. Thus the views expressed here may be quite a realistic assessment of the changes that EU accession will bring.

Source: Rural Household Survey

## 7.3 Rural versus urban life

Respondents were asked to rate 12 aspects of life on a scale from "Better in the countryside" (= +1) to "Better in the city" (= -1), giving the following results:

![](_page_63_Figure_2.jpeg)

Source: Rural Household Survey

Only the quality of food and the purity of air, water and the environment were considered overall to be significantly better in the countryside, with health considered to slightly better in rural areas; in all other aspects, city life was considered preferable.

Interestingly, living in the countryside was not considered as too great a barrier in relation to social life, prospects of marriage and even income, but city life was considered clearly superior in relation to infrastructure, services, education and – most of all – employment opportunities.

There was almost no difference in perceptions between the two entities, with FBiH averaging -0.23 compared to -0.22 in RS, and only Brčko District showed a stronger preference for the countryside, with an overall score of -0.08.

![](_page_64_Figure_0.jpeg)

As might be expected, yearning for the city life tends to decline with age:

Source: Rural Household Survey

How accurately do the respondents' perceptions of rural life reflect reality? Some specific areas, such as access to education and employment, are covered by hard data included in this report, whilst for others only general comments can be made. Two important issues are:

- *Health*: Here the rural-urban picture is quite complex; rural inhabitants are likely to be more active and to eat more fresh food (though for those who keep their own livestock the diet can be very high in saturated fats) but access to health care is more restricted and when something serious does happen, it can take a long time for an ambulance to arrive.
- Environment: Almost certainly the air quality is markedly higher in rural areas, but the same does not hold for drinking water – many rural households are dependent on wells for water and on septic tanks for sewerage; if the two are not adequately separated health risks can arise, and the chemical and microbiological quality of rural water supplies could easily fall below that of water drawn from protected sources and tested, filtered and chlorinated before delivery to consumers.

## 7.4 Future plans and flexibility

Respondents were asked a number of questions to assess how they saw their future, and how willing they were to embrace change:

#### Willingness to respond to changing economic opportunities

- "Would you be ready to sell agricultural land in order to invest in a business proposed by your child?" – 18 % said yes.
- "Would you leave your current job if you were offered a job in a state institution?" –
  60 % of employed respondents said yes.
- "Would you continue to live in the countryside if you got a job in the city?" 52 % said yes.
- "Would you be ready to change your current employment?" 56 % of employed respondents said yes.
- "Would you be ready to retrain if the need arises?" 64 % of employed respondents and 69 % of unemployed said yes.
- "Would you be prepared to change your place of residence if the need arises?" 41 % said yes.

More than half of respondents were willing to take steps such as changing jobs, retraining or moving house in order to secure better employment. However, enthusiasm for an entrepreneurial life appears to be more muted, with some 60 % ready to leave their current employment for a secure job with a state institution, and less than 20 % prepared to sell their land to invest in a business venture proposed by their children.

The responses varied markedly with income level, with the highest earners being more willing to invest in a business idea, less willing to move to a state institution or to change their job, but more willing to retrain, move house or relocate to the city if they got a job there. Such attitudes may well be a cause of their higher incomes, more than a result.

#### Role of agriculture

 "Do you believe that agriculture can be the engine of economic development in BiH?" - 69 % said yes.

Whilst clearly held by many people, this view is rather at odds with evidence presented in this report suggesting a rather more circumscribed role for agriculture, such as:

- Few households have sufficient agricultural land to generate a large turnover (less than 5% of rural households cultivate more than 3 ha of land);
- Agriculture is a minority source of rural household income (estimated by the Rural Household Survey to contribute only 6.5 % of household income);
- Agriculture provides very little formal employment (only 0.5 % of households in the survey employed agricultural workers, and these only for short periods);

- Agriculture constitutes a declining share of total GDP in BiH (falling from 10.3 % in 2006 to 8.2 % in 2011);<sup>38</sup>
- Agriculture provides a steadily declining share of total employment right across Europe.

#### Movement to the cities

- "Do you believe that you eat better than people in the city?" 72 % said yes;
- "Do you consider someone who moved out of the countryside as more successful than someone who succeeded in the countryside?" 39 % said yes.
- "Do you expect that you will live in the countryside in the year 2020?" 84 % said yes;
- "Do you expect that your children will live in the countryside in the year 2020?" 44 % said yes.

Generally, respondents seemed relatively happy with their rural life, considering the diet better and showing no great envy of those who made the move to the big city. However, many seem to believe that change is inevitable and recognise the greater range of opportunities afforded by urban areas, and so expect the next generation to move out of the countryside – a view held equally in rich and poor households.

## 7.5 Climate change

Some 92 % of respondents believed that the weather had changed in the last 10 years, and 93 % attributed this to climate change. Of those who believed the climate was changing, 76 % felt it as a threat. Belief in climate change was held equally by all age groups, though the young felt it less of a threat.

## 7.6 Competitiveness

Finally, respondents who engaged in agriculture were asked whether they considered themselves to be competitive with other farmers in the region and the EU:

- 19 % believed that they were competitive with farmers in Serbia and Croatia;
- Just 11 % believed that they could compete with farmers in the EU.

Clearly farmers in BiH are deeply concerned about the competitive challenge that increasing European integration will bring.

When asked which factors had greatest impact on their competitiveness, farmers replied:

- Agricultural and commercial policy (66 %)
- Production volume (49 %)
- Market volume (40 %)
- Knowledge (39 %)

<sup>&</sup>lt;sup>38</sup> Bosnia and Herzegovina in Figures, 2012. BiH Agency for Statistics. <u>http://www.bhas.ba/tematskibilteni/BH\_u\_brojkama\_eng.pdf</u>

#### • Access to inputs (28 %)

The biggest issue is seen as being government policy for the sector, followed by the relatively small size of their production and the overall BiH market. The importance ascribed to government policy, even by small farmers who receive little or no government subsidies, may indicate something of a "dependence culture" where people expect government to solve their commercial problems – which would be in line with the previous section's finding of widespread willingness to leave the private sector and work in a government institution.