



***Social and economic survey of
Zeravshan valley Republic of
Tajikistan***

**REPORT
On survey results**

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1. Methodology of the survey

Zarafshan valley of Tajikistan consists of three districts (Penjikent, Aini and Gornaya Matcha) and is one of the most remote regions of the country. Due to the difficult access and undeveloped communication with the other parts of Tajikistan, Zarafshan valley is considered to be the one of the poorest and economically less-developed regions.

In the light of the current economic reforms the government authorities of Tajikistan jointly with the International donor organizations initiated the program on the development of Zeravshan valley.

The main aim of the two most significant programs on development of Zeravshan valley (UNDP's Zerafshon Development Initiative program and German Agro Action's Community Agriculture and Watershed Management Project (CAWMP) is to stimulate the economic growth and provide the funds and opportunities for poverty alleviation in the valley.

Baseline survey will be conducted to evaluate the current status of households in the valley before the program launch, in order to obtain the objectively confirmed indicators and adjust the process of decision making and selection of priorities system. The received data will allow UNDP and GAA to evaluate the program results over three years after its launch.

1.1 AIMS AND ANTICIPATED RESULTS

The main aim of the project is the provision of basic information for evaluation of development program's results (before and after), funded by DFID and WB, and also description of events conducted within the frameworks of the project.

The final aim of donors' programs, planned for Zeravshan valley, is poverty reduction in the region via establishment of favorable conditions for economic and social development of population. Baseline survey aims to reveal the series of qualitative and quantitative indicators which should serve as the basis for further monitoring of state and donors' programs.

Quantitative indicators include:

- All working-age population
- Total number of employed (including freelance) male and female (working-age)
- Total income per household
- Total income per capita
- Household income from agriculture activity
- Total freelance, including entrepreneurs
- Total number of registered farmers
- Total number of households, holding land plots
- Total area of irrigated lands, owned by the households
- Total number of households, holding the cattle
- Total number of internal labor migrants
- Total number of external labor migrants
- Total number of persons with high education
- Total number of persons with secondary education

Qualitative indicators include:

- Ability to get secondary and high education
- Access to power supply and other utilities
- Ability to receive credits and loans
- Public participation of population in development
- Economic problems and difficulties, including trade barriers
- Social barriers and problems of households
- Participation of women and youth in economic and social life of region

1. To collect the required information and develop of overall database on the current social and economic situation in Zeravshan valley there was conducted the quantitative survey of 2400 households in all districts of the valley

1.2 Survey of the households

1.2.1 Sources of information and tools for collection the data

The main source of information is survey of households located in the valley. Survey was conducted using the representative sampling of households, located in all the settlements of the valley. As a result information on the usage of lands, agro cultures, structure of income, migrants, social activity etc was collected.

To collect information on households there was used the comprehensive questionnaire, preliminary approved by the GAA in the region.

1.2.2 Sampling plan

The object of survey was the households located in rural and urban settlements of Zeravshan valley.

According to the existing demographic data, the total population of Zeravshan valley is 314,1 thousand, living in 255 settlements. Total in Zeravshan valley there are about 63 thousand of households.

Household is considered to be the sampling unit of the survey. The total number of sampling is 2400 of households.

It is supposed that in each district there should be explored 800 households, but in the course of field activity it was revealed that some settlements cannot be reached, and due to this fact the sampling was re-structured, and displacement coefficient did not exceed 0,6% (per district), it is in the margin of error.

Sampling size in 2400 households meets the following criteria:

- Sampling is available for analysis according to the indicators of each district
- The margin of error doesn't exceed 5%
- Confidence level is 95% ($z=1,96$)

The survey covered villages and cities of Zeravshan valley (see Annex). Sampling for each district was distributed among the villages proportional to the number of households.

1.2.3 Collection of data

Collection of data was made the following way:

General complex of households/Sampling complex of households = step width.

Step width shows how many households (according to the address) should be between two polled households.

1.2.4 Quality control

To ensure the quality of field works and reliability of interviewers, agency conducted the quality control. Two stages of control were used in this survey:

1) In the course of survey supervisors conducted the random check of questionnaires of each interviewer. For this purpose they met with some respondents and clarified some answers from the questionnaire.

2) Upon the completion of field works there was conducted another verification of data, 15% of all questionnaires were randomly selected for checking.

The field monitoring of quality was conducted via the re-visiting the respondents.

Peculiarities of data analysis

Thus the sampling complex of three districts with the total samplings was 33,3%, and in general complex the proportion of population in three districts is differ, in this regard to calculate the general data in Zeravshan valley there was used the method of data analysis which indicates the weight of each data depending on the proportion of share towards the sampling of population.

Thus the weight is as follows:

For the data of Aini district: 0,233682271

For the data of Penjikent district: 0,712388607

For the data of Gornaya Matcha: 0,053929122

2. Main results of the survey

2.1. Structure of auditory of the survey

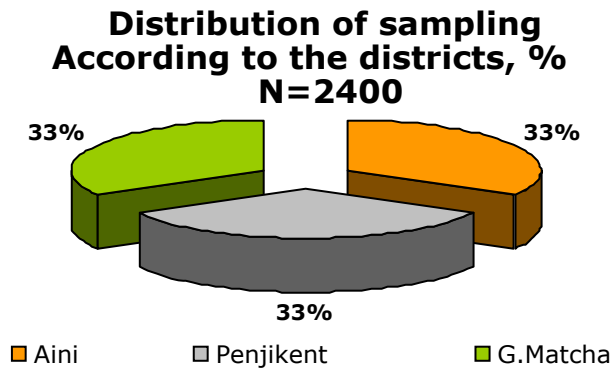
The survey was conducted on the territory of Zeravshan valley, Republic of Tajikistan, in the three districts – Penjikent, Aini, Gornaya Matcha. Households located in the cities and villages of these districts were the objects of survey. The total number of sampling complex was 2400 households – per 800 in each district.

While conducting the survey the following characteristics were taken into consideration:

- Remote of the settlement from the district center;
- Number of members in the household;
- Level of education;
- Aggregate income of the family.
- Main and additional type of activity the members of households are involved in.

Questionnaire developed for this survey by the specialists of the agency included the following sections, which meet the set aims and targets:

1. Labor migration;
2. Income of the household;
3. Feeding;
4. Production of the agriculture products;
5. Cattle and poultry;
6. Access to the services;
7. Type of the housing and property;
8. Social life of the household.



Picture 1. Distribution of sampling per districts, %, N=2400.

In the course of sampling the complex was equally distributed among the three districts (picture 1). Distribution per jamoats find below in the table 1.

Detailed distribution of sampling per villages and jamoats is represented in the Annex. Distribution per jamoats and villages was based on the proportion of the number of population (general complex) inside each district.

Table 1. Distribution of sampling per jamoats, N=2400

Name of jamoat	Count	%
Rarz	115	4,8
Shamtuch	71	3,0
Kolkhozchien	65	2,7
Khalifa Khasan	46	1,9
Rudaki	53	2,2
Chinor	23	1,0
Anzob	68	2,8
Mogiyon	52	2,2
Farob	29	1,2
Sudjina	43	1,8
Zarafshon	37	1,5
Dar-Dar	81	3,4
Urmeton	202	8,4
Fondaryo	84	3,5
Aini	136	5,7
Langar	324	13,5
Ivan Tojik	474	19,8
Boru	39	1,6
Kosatarosh	64	2,7
Penjikent city	138	5,8
Khurmi	39	1,6
Amondara	41	1,7
Shing	34	1,4
Sarazm	73	3,0
Yori	69	2,9
Total	2400	100

The remote of the settlement from the district center influences the development of economy and welfare of the settlement and also impacts the level of infrastructure development.

Remote of the households from the district centers. The table below represents the distribution of households according to the distance from the district center in mileage. It should be mentioned that this distribution is important only for the villages of Aini and Penjikent districts, which is reflected in the table. In Gornaya Matcha district the district centers are nominal and do not differ from the other villages, thus Gornaya Matcha district is not included into the table 2.

Table 2. Distribution of households according to the remote from the district center.

Distance to the district center (km)	Aini		Penjikent	
	Count	%	Count	%
Up to 10 km	128	16,1	257	31,9
From 11 to 30 km	206	25,8	294	36,5
From 31 to 60 km	410	51,4	209	26,0
From 61 to 100 km	33	4,1	43	5,3
From 101 and more km	20	2,5	2	0,2
Total	797	100	805	100

The table shows that more than half of households in Aini district are located from 31 to 60 km from the district center (51,4%, n=410), 42% of households from 30 km from the district center (n=334), i.e. the majority of households are located closely enough. Only 6,6% of households are located at the distance of 60 and more km (n=53), where 2,5% of households are located at the distance of more than 101 km from the district center.

In Penjikent district almost the third part of households is located at the distance of 10 km, i.e. in pre-district area (31,9%, n=257). 5,5% of respondents mentioned that their households are located at the distance which exceed 61 km from the district center (n=45).

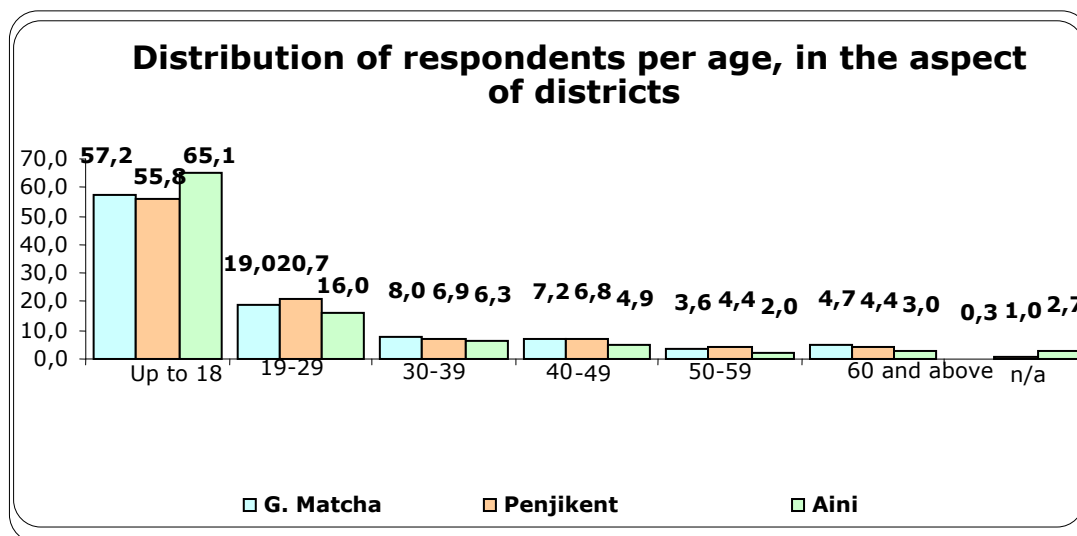
Number of members in the household. The most numerous groups of households in all three districts were the families consisting of 10 and more members – from 86,6% (Gornaya Matcha) to 96% (Aini) – out of all questioned households. The small families consisted of 1-5 members – up to 1,4% (n=11) of respondents.

Table 3. Distribution of households according to the number of family members, in the aspect of districts.

Number of persons in the family	Aini		Penjikent		G. Matcha	
	Count	%	Count	%	Count	%
Up to 2 persons	1	0,1	1	0,1	0	0
From 3 to 5 persons	0	0	7	0,9	11	1,4
From 6 to 9 persons	31	3,9	42	5,2	96	12,0
From 10 and more persons	765	96,0	755	93,8	691	86,6
Total	797	100	805	100	798	100

It should also be mentioned that the maximum family members in Aini and Gornaya Matcha were 18, and in Penjikent district 19 members. The average number per districts is as follows: in Aini – 13,5, in Penjikent – 12,9 and in Gornaya Matcha the less was – 12,1. The more detailed information is submitted in the Annex.

The age of respondents. In the course of survey we received the demographic information on all respondents in the households. More than half of household members in three districts are underage (up to 18 years old). The working-age part of population (from 19 to 50 years old) is 37,7% of respondents in Aini district (n=1664, N=4411), in Penjikent this share is 38,8% (n=1904, N=4904), and in Gornaya Matcha the percentage of working-age population is 29,2% (n=1604, N=5484), picture 2.



Picture 2. Distribution of respondents per age, in the aspect of districts, Aini, N=4411; Penjikent, N=4904; Gornaya Matcha, N=5484.

By comparison of age groups according to the gender it is clear that in Aini district the female respondents under 18 prevail over the male population (female – 72,9% (n=1553, N=2129); male – 42,6% (n=972, N=2282). The same situation is also in Penjikent and Gornaya Matcha districts. Penjikent district (female– 69,8% (n=1636, N=2345); male – 42,9% (n=1099, N=2559); Gornaya Matcha (female – 77% (n=2056, N=2671); male – 53,8% (n=1514, N=2813). The more detailed information is in the Annex.

While considering the respondents according to the gender it is obvious that in all districts the major part of respondents is women. The share indicators of male and female in all districts are statistically equal. The results submitted in table 4.

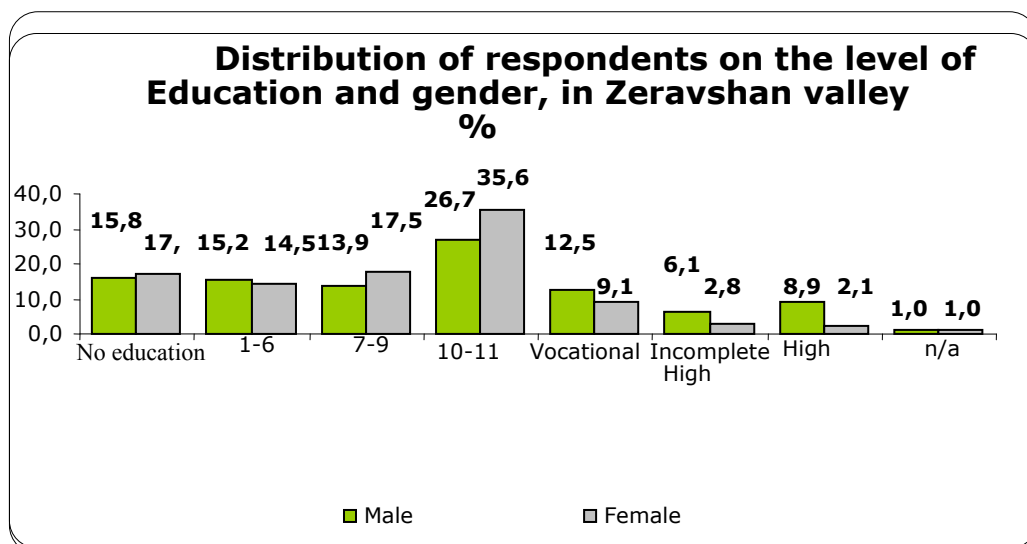
Table 4. Distribution of respondents according to gender.

Districts	Male		Female		Total	
	Count	Row %	Count	Row %	Count	Row %
Aini	2282	51,7	2129	48,3	4411	100
Penjikent	2559	52,2	2345	47,8	4904	100
G. Matcha	2813	51,3	2671	48,7	5484	100

The more detailed information on gender and age is available in Annex.

The level of education. Further it would be interesting to know the level of education of respondents. To be more objective we excluded the respondents below 24 years of old, as they still can continue the education.

Thus, the following situation was revealed: the level of vocational, high and incomplete high education among male population is a little bit higher rather than among female population. The level of school education among women is higher rather than among men. In all, 27,4% of man (n=260) in Zeravshan valley and 14% of women (n=41) have vocational, incomplete high and high education. The information per districts is available in the Annex.



Picture 3. Distribution of population in Zeravshan valley according to the gender and level of education, %.

Residence in the household.

To identify the share of people constantly living in the household the respondents were requested to specify the number of family members. The following results were received.

From the table below it is clear that in Aini and Penjikent districts the share of non-residents among men is higher – 2 times. In Gornay Matcha the shares of men and women are equal. Here should be mentioned the average age of non-residents. In Penjikent district the average age of men and women sharply differs. If among the men it is 37,4 years old (mostly these are labor migrants), among women the average age is 77,2 years old. The same situation is also in Gornaya Matcha district, where the average age of men, non-residents of the household is 80,5 years old, and average age of women 61,8 years old. It is explained by the fact that this category of respondents is women and women temporary living with their children.

Table 5. Shares of respondent, non-residents of the households and their average age.

Districts	Total in the district		Non-residents				Non-residents, average index of age	
			Male	Female	Total			
	Male	Female	%	%	Count	%	Male	Female
Aini	2 282	2 129	8,3	4,7	291	6,6	30,6	34,3
Penjikent	2 559	2 345	8,1	4,7	316	6,4	37,4	77,2
Gornaya –Matcha	2 813	2 671	2,5	2,4	134	2,4	80,5	61,8

Type of activity. Further we requested respondents to specify the type of activity of the family members. Below there is a table reflecting the data on non-residents of the household in general in Zeravshan valley. The table includes the main and additional types of activity, thus the aggregate percentage exceeds 100%.

Thus, we see that in most cases the non-residents of the household are seasonal and part-time employed.

Table 6. Shares of residents-respondents in the aspect of their activity.

Type of activity	Zeravshan valley	
	Count	%
Seasonal, part-time employed	124	24,1
Housewife	154	18,4
Pupil, student	128	13,1
Full-time employed by the private firm	63	12,0
Unemployed	86	10,2
Farmer	56	7,9
Disabled	32	6,7
Pre-school children	41	4,4
Full-time employed by the state bodies	31	4,3
Pensioner	16	2,8
Provision of services (taxi, etc)	17	1,5
Master	11	1,4
Salesmen	1	0,2
N/A	22	2,0
Total	741	100,0

If we will consider the type of activity of non-resident per districts, it is clear that in Aini district this category mainly includes pupils and students (25,1%, n=31, N=291), and unemployed (unemployed, housewives - 30,6% n=89). In Penjikent district this category mainly includes seasonal and part-time employed (31%, n=98, N=316), unemployed (26,3%, n=83), or full-time employed by the private firm (15,2%, n=48). In Gornaya Matcha the major part of non-residents is revealed among the unemployed and housewives - 50,7% (n=68, N=68). The more detailed information is available in the Annex.

As of resident of the households, they are mainly pupils or students, housewives or pre-school children. In Aini district in most cases the residents are pupils and students (26,2%, n=1079, N=4114), as well as housewives - 17,5%, n=720) and pre-school children (14%, n=582). In Penjikent and Gornaya Matcha districts – the same pupils and students (27,8%, n=557, N=4587 и 30,4%, n=1588, N=5223 accordingly). Among the residents the significant part is housewives and in comparison to the other districts in Gornaya Matcha this part if mainly formed by the farmers. The more detailed information is available in the Annex.

Table 7. Shares of residents-respondents in the aspect of the activity.

Type of activity	Zeravshan valley	
	Count	%
Pupil, student	3943	27,6
Housewife	2192	15,7
Pre-school children	2085	12,9
Farmer	1972	10,3
Unemployed	978	9,0
Full-time employed by the state bodies	792	7,8
Seasonal, part-time employed	596	6,4
Pensioner	698	5,9
Salesmen	169	2,2
Full-time employed by the private firm	154	1,7
Provision of services (taxi, etc)	169	1,5
Disabled	135	1,4
Master	80	0,7
N/A	330	1,3
Total	13924	100

Level of education

While considering the level of education among the residents of the households it was revealed that the third part of population in Zeravshan valley have secondary education (10-11 classes). 16,2% of respondents have no education, whereas the pre-school children are only 12,9% of the respondents. Only 5,4% (table 8) have incomplete high education

Table 8. Shares in the aspect of education level (only residents-respondents).

Level of education	Zarafshan valley	
	Count	%
No education	2471	16,2
1-6 classes	2503	15,6
7-9 classes	2959	16,2
10-11 classes	3750	31,1
Vocational education	1049	10,3
Incomplete high education	398	4,2
High education	615	5,4
N/A	179	0,9
Total	13924	100

If we will consider this data in the aspect of districts it would be clear that the least share of those who have incomplete high education is found in Gornaya Matcha (1,7%, n=88, N=5223). The same district provides the highest percentage of those who has no education at all (19,9%, n=1037). If talking about respondents who has vocational, incomplete high or high education, in Gornaya Matcha there is also the least percentage of those (5,3%, n=278). The more detailed information is available in the Annex.

Further we will collate the level of education and type of activity among the resident respondents (table 9). Table below excludes the pupils, students, pensioners, disabled and pre-school children. The more detailed information is available in the Annex.

As it is seen from the table, the majority share of those who have high and incomplete high education have full-time job, the less share of respondents is among unemployed and housewives.

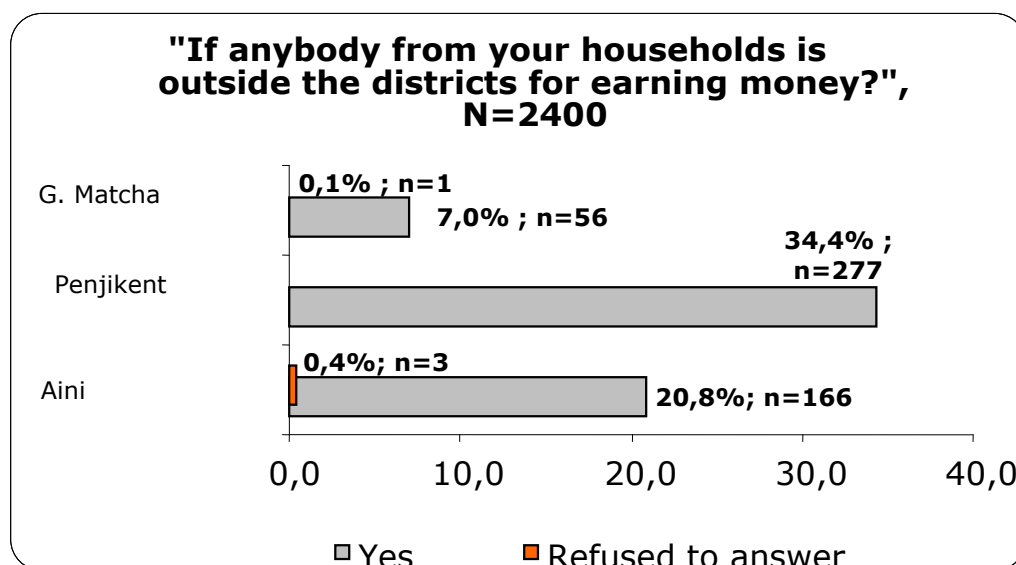
Table 9. Proportion of education level and type of activity (only the resident-respondents).

Level of education		Housewives and unemployed		Farmer		Seasonal, temporary employed		Full-time employed	
		Count	%	Count	%	Count	%	Count	%
Zeravshan valley	No education	50	8,7	21	7,1	0	2,7	0	2,4
	1-6 classes	48	2,2	46	1,9	2	1,6	0	0,6
	7-9 classes	566	15,2	654	14,6	8	8,7	15	5,1
	10-11 classes	368	53,9	408	40,2	9	47,0	39	37,0
	Vocational education	14	13,6	79	24,3	2	25,6	36	26,9
	Incomplete high	7	3,9	8	6,4	2	6,0	19	10,5
	Incomplete high education	8	2,0	16	5,0	2	8,2	45	17,3
	N/A	6	0,5	6	0,5	1	0,2	0	0,1
	Total	1067	100	1238	100	26	100	154	100

2.2. Labor migration

Labor migration is not rare for Tajikistan. It impacts the overall economic situation in the region, as survey data shows the majority of labor migrants are working-age men.

One of the aim of this survey was to forecast the situation with the labor migration, define the districts, subject to labor migration, shares of families in each district and in Zeravshan valley, which have labor migrants, and also reflect the average indexes of labor migrants in the families.



Picture 4. Distribution of respondents' answers on the question «If anybody from your household is outside the district?», N=2400

The table below shows the shares of households in each district and in general over Zeravshan valley, which have labor migrants in the aspect of gender.

As it is seen in the table, almost all labor migrants are men. The significant part of families which have labor migrants in Penjikent district – 4,7% from the total number of families of Penjikent district. It should also be mentioned that in general in Zeravshan valley there are less than 24% of families with labor migrants. The more detailed information is available in the Annex.

Table 10. Shares of families having labor migrants N=2400.

District	Shares of families having labor migrants – female		Shares of families having labor migrants – male		Refused to answer		Total	
	Count	Row %	Count	Row %	count	%	Count	Row %
Aini	0	0	13	1,6	153	19,2	166	20,8
Penjikent	1	0,1	38	4,7	238	29,6	277	34,4
Gornaya-Matcha	0	0	5	0,6	51	6,4	56	7,0
Zeravshan valley	1	0,1	56	3,8	442	20,9	499	23,2

Further we will consider the families with labor migrants more detailed. The household in Penjikent district marked in the column «Shares of families having labor migrants-women», has 2 women, which left overseas during the last 5 years.

As of male labor migration, the situation is more complicated. In general, in Zeravshan valley the majority of families have 2 male labor migrants (2,5%, n=38), and 1,3% (n=18) have more than 2 migrants. Over 96% of families have no labor migrants at all (table 11).

Table 11. Number of labor migrants in households, N=2400.

District	Male					
	No migrants		2 labor migrants		More than 2 labor migrants	
	Count	Row %	Count	Row %	Count	Row %
Aini	784	98,4	10	1,3	3	0,4
Penjikent	767	95,3	25	3,1	13	1,6
Gornaya-Matcha	793	99,4	3	0,4	2	0,3
Zeravshan valley	2344	96,2	38	2,5	18	1,3

We also wanted to find out the time of labor migrants departure and destination point.

From the tables submitted below it is seen, that above 80% of labor migrants from Zeravshan valley left during the last 12 months. The most part of labor migrants left from October 2001 till December 2005 were revealed in Penjikent district, it may also be mentioned that migrants from this district mainly go to the other CIS countries and on the second place – overseas. At the same time the population of Penjikent and Aini districts more often rather than population of Gornaya Matcha district live in households but go for earnings outside the district (52,2%, n=41 и 46,6%, n=12), (In the table submitted below 100% is taken as the number of labor migrants in the district).

Table 12. Departure time of the labor migrants, N=2400.

District	Left during the last 12 months, %	Left from October 2001 to December 2005, %	Bcero, count	Leaving during the last 5 years	
	Male	Male	Male	count	%
Aini	93,3	6,7	30	12	46,6
Penjikent	55,4	44,6	74	41	52,2
Gornaya-Matcha	100	0	11	2	0,5
Zeravshan valley	84,8	15,2	115	55	100,0

Regarding labor migrants' destination point, it may be noted that among the inhabitants of Aini and Penjikent districts the most popular country-employer is CIS, while the inhabitants of Gornaya Matcha mainly leave overseas.

Table 13. Destination point of labor migrants, N=2400.

District	Other districts of Sughd area	Other areas of Tajikistan	CIS	Overseas	Total
Aini	4,8	0	90,5	4,8	42
Penjikent	3,5	0	78,3	16,5	115
Gornaya-Matcha	0	0	38,5	61,5	13
Zeravshan valley	4,2	0	84,8	10,6	170

Apparently, with the high level of labor migration in the region it is important to reveal the level of satisfaction among labor migrants at the new place of residence and work. And also migrants' problems and difficulties.

About the problems we asked the respondents in the families which have labor migrants. As the survey showed, more than half of respondents mentioned that labor

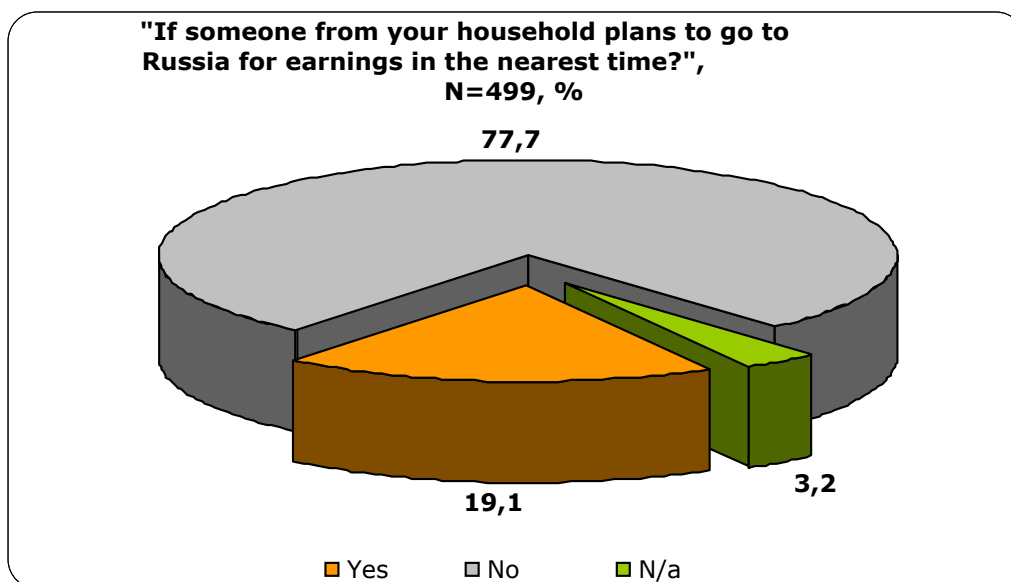
migrants in their families faced the problems of housing and registration – this reply was common almost for all respondents in the districts.

The next important problem (among the third part of respondents) was law and order bodies. Also more than third part of respondents mentioned that they were unsatisfied with the labor conditions and low salary level. 14,6% of respondents declared that their employers do not follow the rights of employees. Only 8,9% said, they did not face any problems, and 4,3% of respondents were not able to respond, table 14.

Table 13. Problems and difficulties, which face the labor migrants, N=499.

Variants of responses	Count	%
No problems	46	8,9
Problems with housing /registration	266	54,3
Bad working conditions	149	34,2
No language skills	116	22,1
Low payment for work	188	38,9
Disregard of workers' rights by the employer	80	14,6
Bad attitude by the local population	29	3,2
Frequent problems with law and order bodies	189	37,7
N/O	30	4,3
Total	499	100,0

Despite of many problems which migrants face, the drift of population does not stop. In this regard it is important to reveal the intention of population for labor migration. As it is seen from the picture below, less than 20% of respondents (who already has the experience with labor migrants) responded that they have family members who are going to Russia, and 3,2% of respondents were not able to answer.

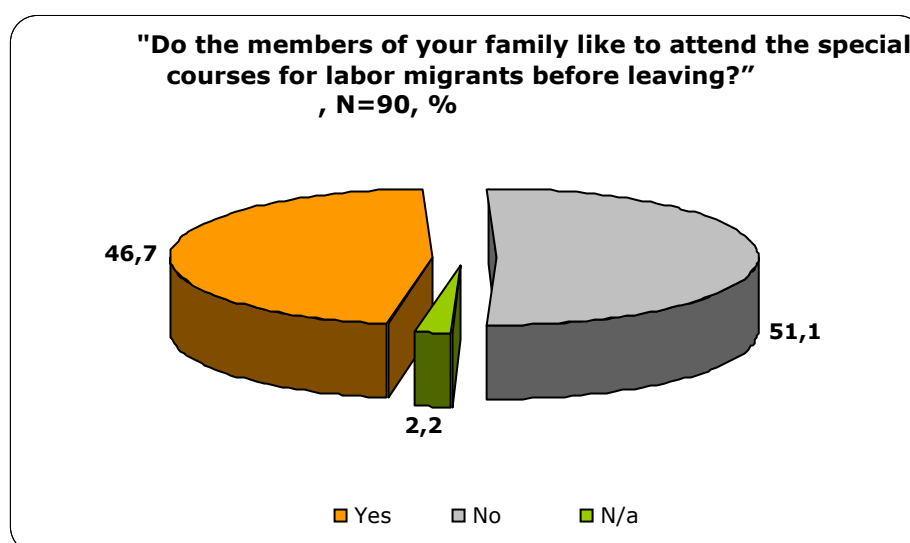


Picture 5. Distribution of respondents' answers on the question «If someone from your household plans to go to Russia for earnings in the nearest future?», N=499, %

The maximum number of labor migrants per family in Penkikent district is 4. The average number of expected labor migrants in Aini and Gornaya Matcha is 1, in Penjikent - 1,2 per family. The more detailed information is available in the Annex.

As the respondents mention that labor migrants have problems it is important to reveal the desire among the citizens to get more detailed information on the place and country where they are going to work.

46,7% of respondents who is expecting labor migrants in their families manifested the desire to get additional information on the special courses, 51% of respondents think that there is no need in such information, and 2,2% were not able to answer.



Picture 6. Distribution of respondents' answers on the question «Do the members of your family like to attend the special courses for labor migrants before leaving?», N=90, %

Also in the course of survey there was revealed the most popular information which is submitted in table 14. Thus, the most popular information for migrants is the rights and obligations of labor migrants in the host country. Also more than third part of respondents wanted to learn Russian language. Less than third part wanted to receive consultations on job search in the host country.

Table 14. Information, which labor migrants would like to obtain before leaving, N=45, %.

Zeravshan valley		
Variants of answers	Count	%
Rights and obligations of labor migrants in the host country	28	61,8
Language skills (Russian)	19	34,2
How to find the job	16	30,1
Brief information on the level of salary, prices and living conditions	8	15,9
Computer skills	6	14,3
N/A	5	10,3
Total	45	100

2.2. Income of the households

To identify the structure of income we divided all incomes on 3 main groups:

1. Income from sales of agriculture products;
2. Income from sales cattle and poultry;
3. Non-agricultural income (include: full-time job in kolhoz, in some industry, organizations and etc, small sales, work on contract, part-time and seasonal job, income from money transfer, sales of food aid, property, state pensions and allowances, stipend, home industry, humanitarian aid, loans and credits).

Non agricultural income

The most common source of income among the non-agricultural income for all population of Zeravshan valley is full-time job: more than half of all households mentioned that type of income – 54,4% (n=1470, N=2400). Also the prevalent form of income is work

on contract, and state pensions and allowances – this source of income was specified by 26% of all respondents (n=458 and n=516 accordingly). Over the tenth share of respondents specified the sales of food aid as the source of income (table 15)

Table 15. Income generating activity: shares of households in the aspect of income sources. N=2400, %.

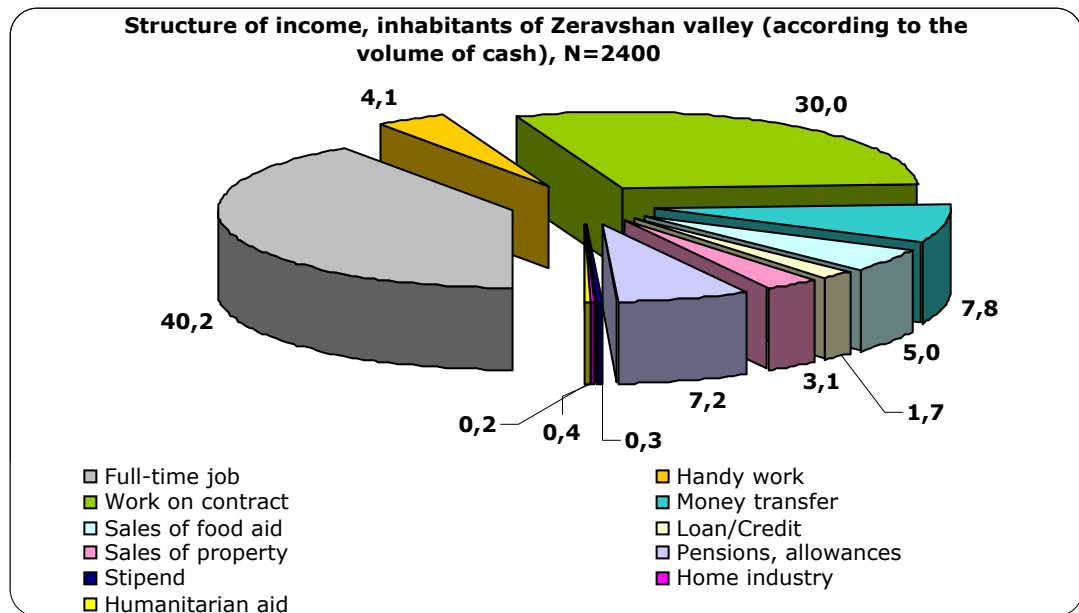
Source of income	Zeravshan valley	
	Count	%
Full-time job	1470	54,4
Work according to contract, part-time or season work	458	26,0
State pensions, allowances	516	26,0
Sales of food aid	341	11,2
Sales of property	163	8,3
Handy work	221	7,6
Money transfer	207	7,3
Loan/credit	109	4,5
Stipend	25	1,3
Home industry	34	1,2
Humanitarian aid	41	1,2
Total	2400	100

Among the households of Aini district 55,5% (n=442, N=797) specified the full-time job as the source of income. Work on contract was specified by 27,4% of respondents (n=218) and the less share of respondents mentioned the state pensions and allowances - 26,6% (n=213), the rest sources of income do not exceed 10% of households.

Among the households of Penjikent district the share of full-time employees is less - 44,5% (n=358, N=805). Work on contract was mentioned by 27,2% of respondents (n=219), state pensions and allowances - 27,2% (n=219). Another significant source of income is Sales of food aid - 27,3% (n=220).

The majority of households in Gornaya Matcha also mentioned the full-time job as the source of income - 84% (n=670, N=798). State pensions and allowances were specified by 10,5% of respondents (n=84) and the share of those who mentioned the sales of food aid 9,1% (n=73) is almost identical. The more detailed information is available in the Annex.

If we will consider the structure of income in Zeravshan valley according to the volume of funds the main source of income would be full-time job (40,2% from all non-agriculture income of Zeravshan valley) and work on contract (30% from all non-agriculture income of Zeravshan valley). In the second place is state pensions and money transfer (7,2% и 7,8% accordingly). (Picture 7)



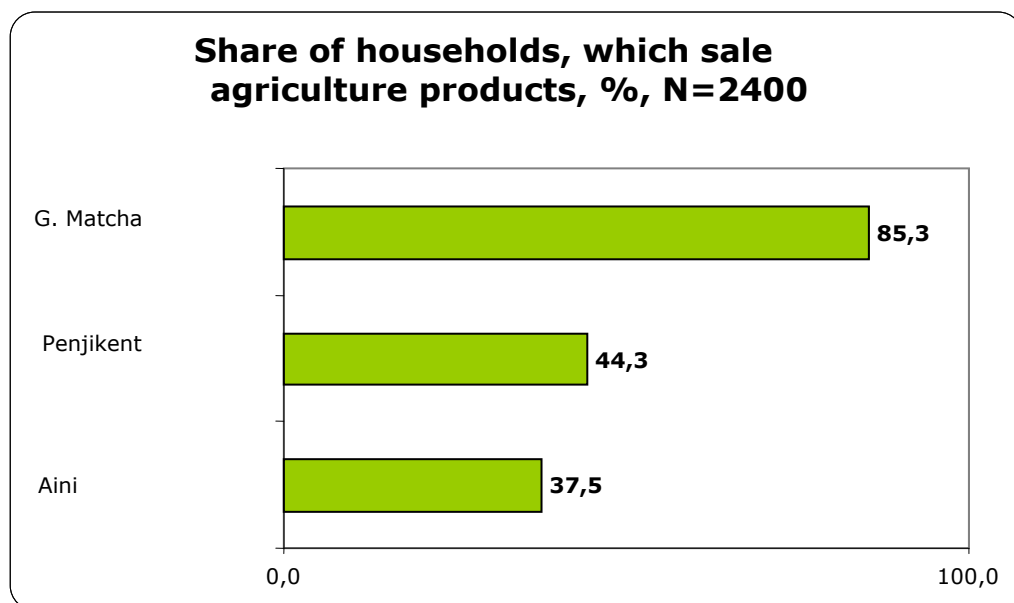
Picture 7. Structure of income, inhabitants of Zeravshan valley, (non agro sources of income), N=2400, %.

In Aini district the main sources of income are full-time job, (41,7%) and work on contract (35,8%). In Penjikent apart from the listed sources of income (24,6% and 19,1%) also the significant share is taken by the money transfer - 22,2%.

In Gornaya Matcha the situation is differ – almost all income is brought by the full-time job - 88,5%.

Income from sales agriculture products

Sales of agriculture products in Aini district is made by 37,5% of households (n=299), in Penjikent district 44,3% (n=357), and in Gornaya Matcha 85,3% of all households, which is 681 families. These number we will consider as 100%.



Picture 8. Share of households, which sale agriculture products, in the aspect of districts, N=2400, %.

The most popular agriculture product for the population of Zeravshan valley as the source of income is wheat: less than half of households sell this agro product - 47,2% (n=887, N=1337). Also almost the half of households in Zeravshan valley sell potato-44,1% (n=323). The third part of respondents receive income from sales of other corny and bean cultures - 33,9% (n=211).

Table 16 groups all types of agriculture products, the more detailed information on each culture and in the aspect of districts is available in the Annex.

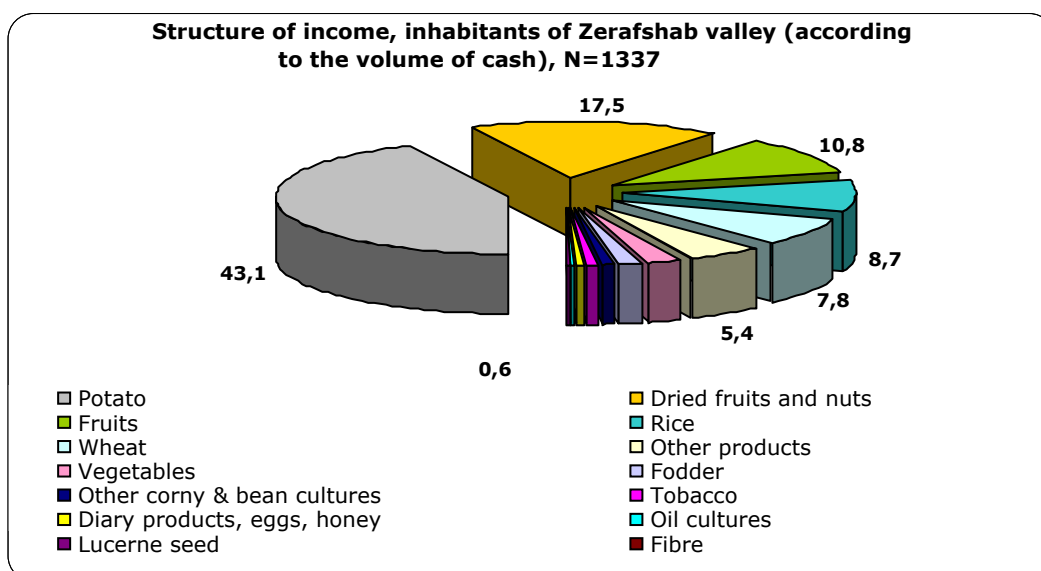
*Table 16. Income from sales of agriculture products:
shares of households. N=1337, %.*

Products	Zeravshan valley	
	Count	%
Wheat	887	47,2
Potato	323	44,1
Other corny and bean cultures	211	33,9
Oil cultures	249	21,3
Rice	178	15,3
Lucerne seeds	85	5,9
Fruits	90	5,5
Dried fruits and nuts	105	4,9
Vegetables	28	4,1
Dairy products, eggs, honey	42	2,7
Fodder	12	2,2
Fibre	14	1,2
Other products	3	0,5
Tobacco	3	0,5
Total	1337	100

For Aini district the most popular agriculture products are equally potato (51,5%, n=154) and fruits (51,5%, n=154). Less than half of respondents receive income from the sales of dried fruits and nuts - 41,5% (n=124). And the fourth part of population of Aini district receive income from sales of wheat - 22,4% (n=67).

40,9% of households in Penjikent district specified the sales of vegetables (n=146) as the source of income. Statistically equal shares of respondents in Penjikent district mentioned fruits (29,7%, n=146), corny and bean cultures and rice (no 23%, n=82).

For the inhabitants of Gornaya Matcha district the main source of income in agro sphere is sales of potato - 95,6%, (n=651), the second place is wheat (16,9%, n=115). The more detailed information is available in the Annex.



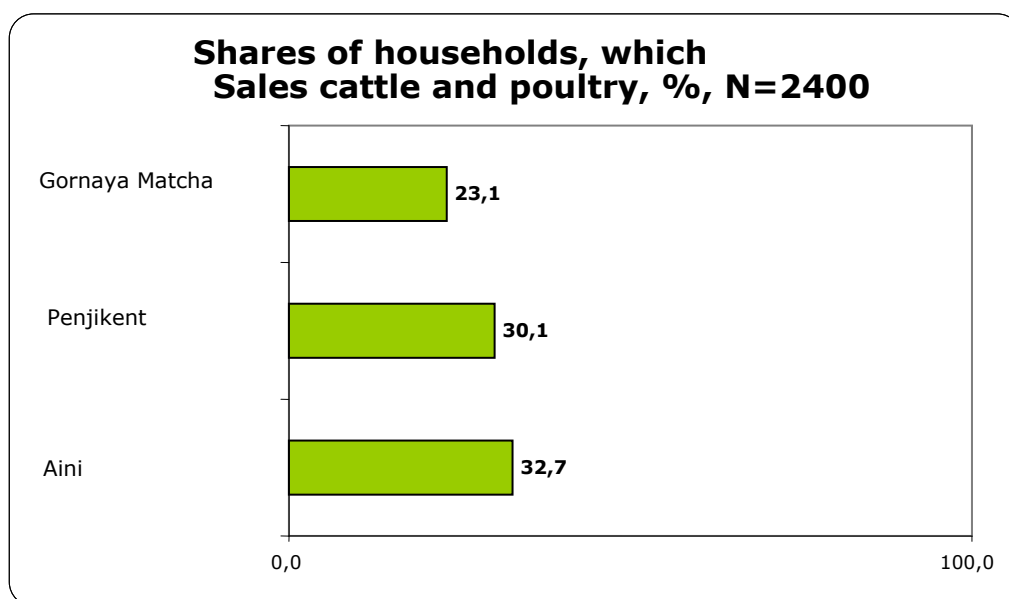
Picture 9. Structure of income, inhabitants of Zerafshan valley, (sales of agro products), N=1337, %.

Further we will consider the structure of income from the sales of agriculture products according to the volume of funds. The majority part of the common households' income in Zerafshan valley constitutes the sales of potato - 43,1% from the total income, less than fifth share takes dried fruits -17,5%.

Sales of potato is one of the main sources of income in Aini and Goirnaya Matcha districts (49,2% и 92,7%) accordingly. In the second place in Aini district there are dried fruits and nuts - 20,1%. In Penjikent district over third part of all income constitute the sales of rice - 35,9%, the equal parts are potato and nuts - 13% and 13,7% accordingly. The more detailed information is available in the Annex.

Income from sales the cattle and poultry

Sales of cattle and poultry in Aini district is made by 32,7% of household (n=261), in Penjikent district 30,1% (n=242), and in Gornaya Matcha 23,1% of all households, which is 184 families. These numbers we will further consider as 100%.



Picture 10. Shares of household which sell the cattle and poultry in the aspect of districts, N=2400, %.

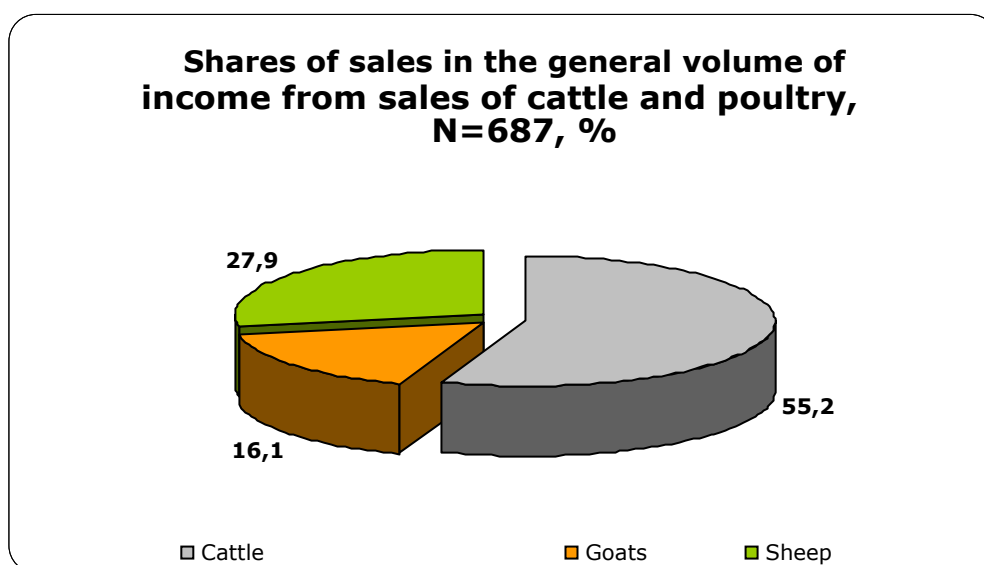
In general in Zerafshan valley the most popular type of cattle for sales is great cattle, more than half of all households are engaged in this business - 55,2%. Above third

part of households sell goats and sheep – 38,7% and 38,2% accordingly. This situation is characterized for each district.

*Table 17. Income from sales of cattle and poultry:
shares of household, N=687, %.*

Products	Zeravshan valley	
	Count	%
Cattle	359	55,2
Goat	224	38,7
Sheep	286	38,2
Yak	1	0,0
Camel	1	0,1
Turkey	5	0,7
Hen	27	3,7
Duck	1	0,3
Donkey	6	0,8
Total	687	100

In Aini and Penjikent districts more than half of households specified the sales of cattle as source of income - 57,1% and 51,7% accordingly, in Gornaya Matcha this index is 46,2%. 40% of households in Aini and Penjikent districts specified the sales of goats as source of income, and in Gornaya Matcha there is only 12% of such households, but in this district there is more than half of households which mentioned the sales of sheep - 57,1%.



Picture 11. Structure of sales, inhabitants of Zeravshan valely, (sales of cattle and poultry), N=687, %.

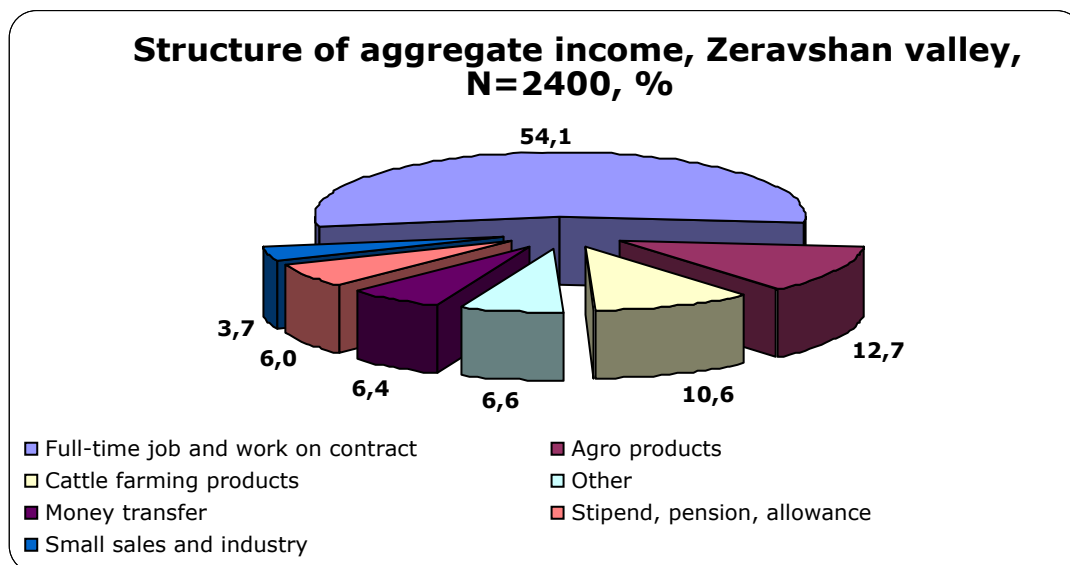
Further we will consider the structure of income from sales of cattle and poultry according to the volume of funds. The major part of households income in Zeravshan valley constitute the sales of cattle - 55,2% from the total income, 28% from the aggregate income constitutes the sales of sheep, and 16,1% sales of goats. The shares in general income of other points do not exceed 0,5%.

In Aini and Penjikent districts the structures of income are similar: cattle - 56% and 56,5% accordingly. Income from sales of goats - 16,3% in Aini district and 18% in Pwnjikent district. Income from sales of sheep - 27,5% in Aini district and 22,5% in Penjikent district. In Gornaya Match the structure of income is differ: 55,6% is income from sales of sheep, 39% - from sales of cattle and total 5,2% from sales of goats. The more detailed information is available in the Annex.

Aggregate income

The structure of population aggregate income in Zeravshan valley is represented on the Picture 12. Thus, the main source of income (according to the volume of funds) is full-time job and work on contract, it takes 54,1% of the total income. The equal parts in the structure of income is taken by the sales of agriculture products, cattle and poultry (12,7% and 10,6% accordingly). The other income elements do not exceed 10%.

Additional information on the structure of aggregate income is available in the Annex.

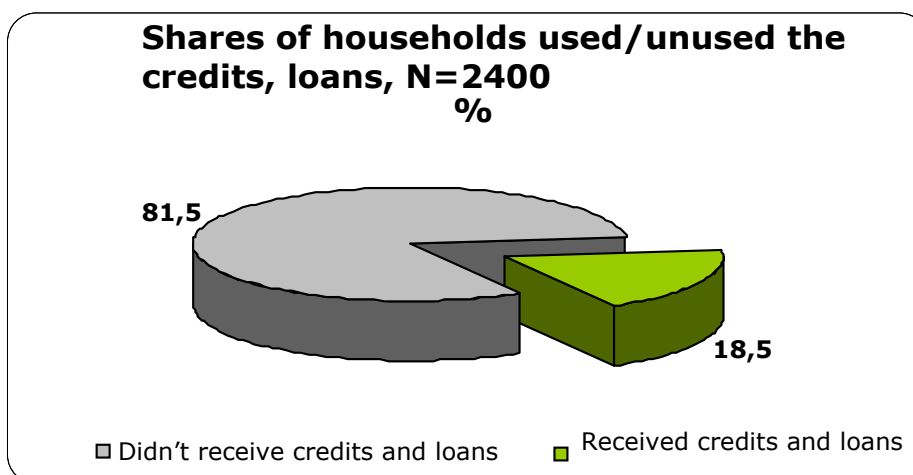


Picture 12. Structure of aggregated income, inhabitants of Zeravshan valley, N=2400, %.

Credits and loans

Significant index of population's economical development level is the ability to take loans and credits. This component wasn't included in the general structure of income, as in fact it is not the net income.

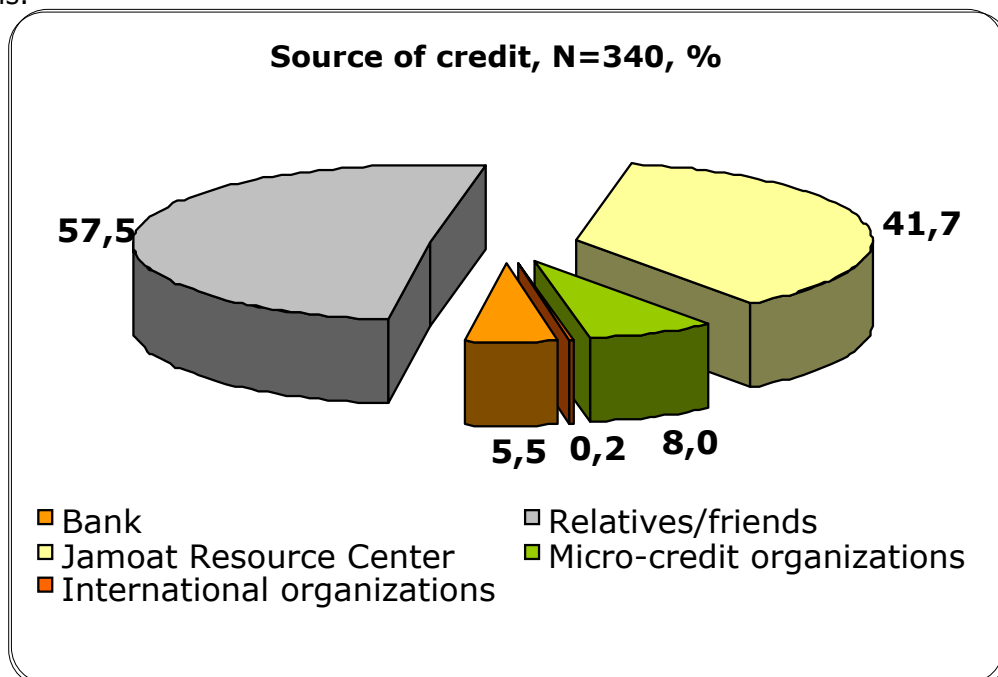
Below there is diagram which defines the shares of loans and credits in Zeravshan valley in general. Thus, the majority of respondents didn't take credits during the last 12 months.



Picture 13. Shares of households, used/unused the credits and loans during the last 12 months, in general in Zeravshan valley, N=2400, %.

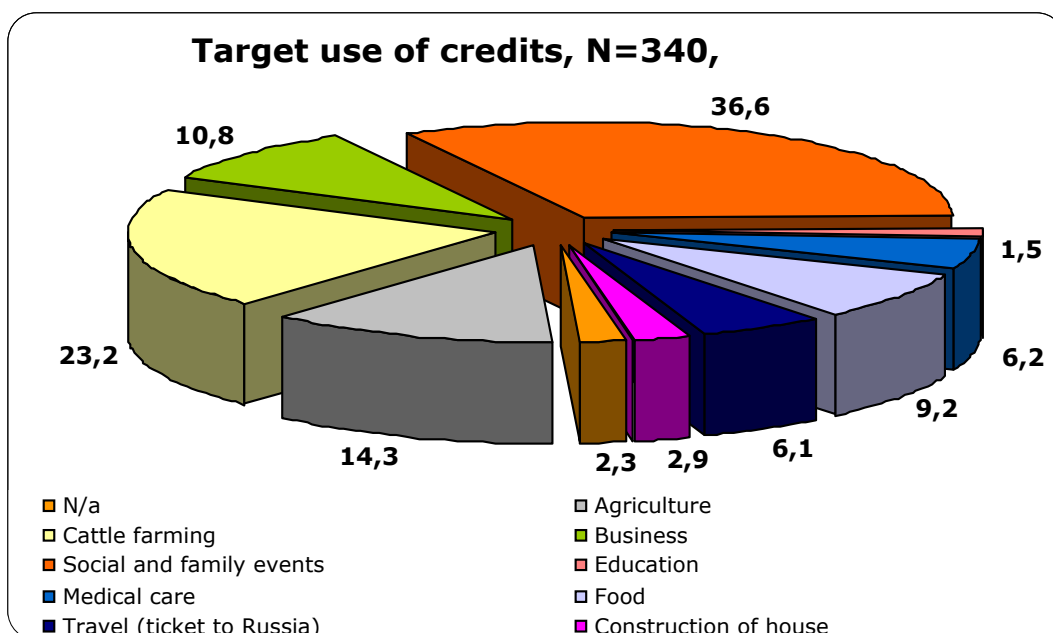
Further we have to find out the sources of credits and loans and what they are used for.

For the population of Zeravshan valley the main source is relatives and friends – more than half of those who took credits for the last 12 months specified these sources of credit. Less than half of respondents mentioned the «Jamoat Resource Center» as the source of credit. Less than tenth part of respondents specified the micro-credit organizations.



Picture 14. Shares of household used various sources of credits and loans during the last 12 months in general in Zeravshan valley, N=340, %.

All target use of credits is submitted on the diagram 15. Thus, above the third part of respondents use credits for various social and family events. The fourth part of respondents used the credits for cattle breeding. The tenth part took the credits for agriculture needs. The more detailed information per districts is available in the Annex.

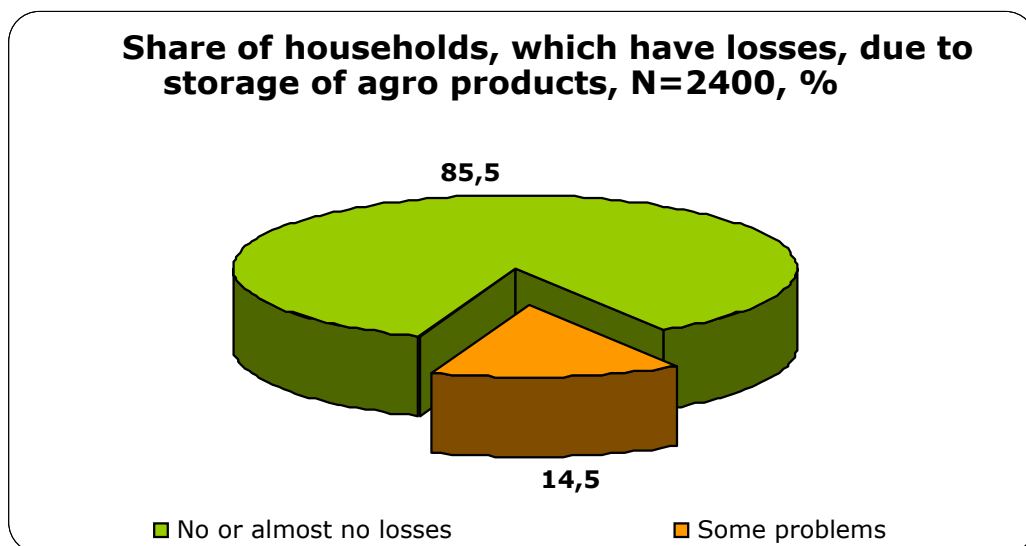


Picture 15. Shares of households, used various sources of credits and loans during the last 12 months, in general in Zeravshan valley, N=340, %.

2. 3. Feeding

Further it was important to find out the quality of feeding among the inhabitants of Zeravshan valley. Also, the quality of feeding relates to the losses which suffer the households while storage the goods.

The majority of respondents mentioned that they do not have problems with storage of food (85,5%), nevertheless, 14,5% of respondents (n=609) say that there are problems with storage and households suffer the losses of various sized and products.



Picture 16. Shares of households having losses related to the storage of agro products in general in Zeravshan valley, N=340, %.

All losses of agro products were divided into 3 groups, respondents specified more moderate and small losses and products which they lost while storage.

Table 18 submits the main agriculture products subject to huge losses. In the column «other» contains the following information: apples, barley, egg-plant, grapes, apricot, lucerne, onion, natural hay. The shares of households specified this agro cultures do not exceed 8%.

Table 18. Significant losses of the agriculture products: shares of the households. N=96, %.

Significant losses	Zeravshan valley	
	Cases	%
Potato	65,0	64,4
Carrot	9,0	16,3
Wheat	19,0	15,3
Other	18,0	31,8
Total	96,0	130,2

Table 19 provides the main agricultural crops subject to moderate losses. The column "Other" includes the following crops: buckwheat, eggplants, wheat, onion, tomatoes, cabbage, dried fruits, seeds, oil, pears. The share of households that indicated these agricultural crops doesn't exceed 6%

Table 19. Some losses of agricultural crops: households' shares. N=348, %.

Some losses	Zaravshan valley	
	Cases	%

Potato	260,0	75,4
Carrot	47,0	16,1
Apples	6,0	9,4
Other	18,0	31,8
Total	348,0	122,2

In Table 20 mail agricultural crops subject to small losses are presented. The column "Other" includes the following crops: apples, apricots, onion, nuts, hay, eggplants, grapes. The share of households that indicated there agricultural crops doesn't exceed 5%.

Table 20. Small losses of agricultural crops: households' shares. N=168, %.

Small losses	Zaravshan valley	
	Cases	%
Potato	113,0	44,9
Barley	27,0	29,1
Carrot	26,0	23,3
Wheat	16,0	8,8
Other	14,0	19,1
Total	168,0	0,0

Thus, potato is the crop that damages the most during storing. In all three measurements of losses the majority of households indicated this crop. On the other hand, potato is in the first place considering the profit and comprises 47.2% of the total income of households in Zaravshan valley. The share of carrot in the total income of the population of Zaravshan valley from sales of agricultural crops is not substantial and doesn't exceed 1%. Wheat is also included in the big losses of 15% of households subjected to losses but it takes 7.8% of the total income of the households in Zaravshan valley.

See the attachment for more detailed information.

As to the frequency of consuming food commodities by the population of Zaravshan valley, we'll look at that periodicity in the context of fall and spring periods.

Over 90% of respondents consume bread and tea once day or more often, from 70% to 80% of the respondents eat sugar, oil and salt daily, and from 12% to 25% - several times a week. From 29% to 50% eat potato, carrot and onion daily, and over half of the respondents eat them several times a week. From 41% to 63% of the respondents never consume tomatoes, cucumbers, processed vegetables, fresh fruit, or marinade, and from 23% to 29% consume them rarely. From 30% to 45% of households consume sweets, meat, milk and kefir 2-3 times per week, from 19% to 28% of the respondents consume them rarely, and only from 9% to 14.7% consume these products daily.

During fall period from 71% to 94% of the respondents consume tea, bread, sugar, oil and salt every day, and from 12% to 26% consume sugar, oil and salt 2-3 times per week. Also, sufficiently big share of households (60%) consume onion every day. Over half (from 57% to 70%) of the respondents consume potato, rice and carrots 2-3 times per week. Also over half of the respondents (53.7%) consume meat 2-3 times per week, and only 8.5% eat meat every day. From 15% to 25% of the respondents eat milk and kefir every day, and from 32% to 38% - 2-3 times a week. Also, during fall period the respondents (from 33% to 40%) eat cucumbers and tomatoes more often - 2-3 times a week.

2. 4. Production of agricultural produce

Land tenure

Next important information that was necessary to determine is production of agricultural produce. Also, the structure of land and types of ownership as well as average size of the plot of land per household or per person is important.

During the survey the land was divided into 2 major types and 5 subtypes:

1. Plough-land:
 - a. Irrigated plough-land;
 - b. Non-irrigated plough land;
2. Non-plough land:
 - a. Orchards;
 - b. Hayfields;
 - c. Pastures.

We also considered types of land tenure:

1. Dehkan farm;
2. A share in the collective dehkan farm;
3. Homestead land;
4. Presidential land;
5. Rented land;
6. Use without payment.

The following Table presents general data for all types of land and types of land tenure per district. For calculation purposes land owned by all 2400 households and members of all households was considered. Pastures weren't taken into account as usually several households use one pasture.

Table 21. Average size of plot of land per person in the Zaravshan valley districts.

District	Total land (for 2400 households)	Total people	Average size of plant of land per person (ha)
Ayni district	749,2	4411	0,17
Penjikent district	1289,04	4904	0,26
Gornaya Matcha district	11733,93	5484	2,14

As arable plough-land is the most fertile, we had to determine the share of households owning such land. The following Table presents figures for districts and for Zaravshan valley in general. It also represents average figures for the size of arable land per household (only households with arable land were taken into consideration).

Table 22. Arable land: share of households that own it; average size per household in the districts and Zaravshan valley in general.

District	# of households with plough-land	# of households with arable land	Share of households with arable land	Average size of plot of arable land per person
Ayni district	654	648	99,1	1,1
Penjikent district	682	641	94,0	1,1
Gornaya Matcha district	793	791	99,7	4,3
Zaravshan valley	2129	2080	95,5	1,3

On average, the size of arable land per member of household (with arable land) in Ayni district is 0.20287 ha; in Penjikent district – 0.1903; in Gornaya Matcha district – 0.62806 ha per person.

Table 23 presents average figures for the size of various types of land per person considering all families in Zaravshan valley.

Table 23. Types of land, average sizes of land per member of household in districts and Zaravshan valley in general.

District	Plough-land		Non-plough land		
	Arable land	Non-arable land	Orchard	Hayfield	Pasture
Ayni district	0,165	0,002	0,004	0,006	0,000
Penjikent district	0,152	0,058	0,017	0,027	0,065
Gornaya Matcha district	0,623	0,232	0,029	0,018	0,000
Zaravshan valley	0,180	0,054	0,015	0,021	0,046

Further, we'd like to examine shares of various types of land (ha) in the context of the type of land tenure. The data is presented for Zaravshan valley in general. Thus, we see that homestead land and hayfields take the larger part of the total area – 23.5% as well as non-arable homestead plots – 42.6%

Table 24. Types of land in the context of land tenure, share of land for Zaravshan valley in general.

Zaravshan valley	Type of land	Dehkan farm	Share in the collective dehkan farm	Homestead land	Presidential land	Rent	Use without payment	Total
		Arable	19,4	17,9	36,3	11,3	25,4	0,2
Non-arable	14,0	8,7	42,6	7,0	12,2	0,7	1635,2	
Orchard	17,8	22,3	23,5	0,5	1,4	0,0	270,3	
Hayfield	53,6	13,5	23,5	2,1	2,6	0,0	7074,8	
Pasture	41,5	52,9	0,2	0,3	0,2	0,3	247,8	

In Ayni district 36,6% of the arable land is homestead land, and 36-2% - rented land. 74.9% of non-arable land in Ayni district is homestead land. The majority of orchards in this district are shares in the collective dehkan farms, and 1/3 (34.7%) – homestead land. 55.2% of hayfields in Ayni district consist of homestead plots, and 42.3% are shares in collective dehkan farms.

In Penjikent district 38.4% of arable land are homestead plots, 23.7% - dehkan farms, and 15.8% of arable land are shares in collective dehkan farms. Non-arable land in Penjikent district is represented by homestead plots and presidential land (33.3% and 35.2% respectively). 50.2% of orchards are presidential land; dehkan farms and homestead land – 23.1% and 21.6% respectively. The majority (72.9%) of hayfields in Penjikent district are shares in collective dehkan farms. The majority of pastures in this district are also shares in collective dehkan farms (74.3%) and partially dehkan farms (25.5%).

In Gornaya Matcha district 41.4% of arable land is dehkan farms and 28% - rented land. Non-arable land is equally distributed between homestead plots and presidential land – 33.3% and 35.2% respectively. Almost all orchards in the districts are shares in collective dehkan farms – 92%, and 1/3 of hayfields – rented land, and 26% of hayfields – dehkan farms. Collective dehkan farms and homestead land have equal shares of hayfields – 15% each.

The structure of land in the context of type of ownership is represented in Table 21. A little less than ¾ of households own homestead land and the average size per family is 0.65 ha. Over 1/3 of the households have shares in the collective dehkan farm and the average size of land per family is 0.71 ha. 26% of respondents own presidential land and

the average size is 1.16 ha per family. The maximum size of presidential land per family is in Penjikent district – 1.47 ha.

The average size per family was calculated considering the number of families owning such type of land.

Table 25. Types of land tenure: shares of households and average size per family

		Share of families having land of such type of ownership, N=2400	Average size per family (ha)
Zaravshan valley	Dehkan farm	14,7	2,73
	Share in collective dehkan farm	36,1	0,71
	Homestead land	74,4	0,65
	Presidential land	26,0	1,16
	Rented land	13,9	0,81
	Use without payment	0,9	0,48

As we can see, over 1/3 of all households have shares in collective dehkan farms. That's why it is important to detect the share of those having a certificate confirming the share. The results of the survey show that over half of the respondents don't have such certificate. The biggest number of such respondents resides in Gornaya Matcha district composing 96.6% of the total number of owners of shares in collective dehkan farms of Gornaya Matcha district.

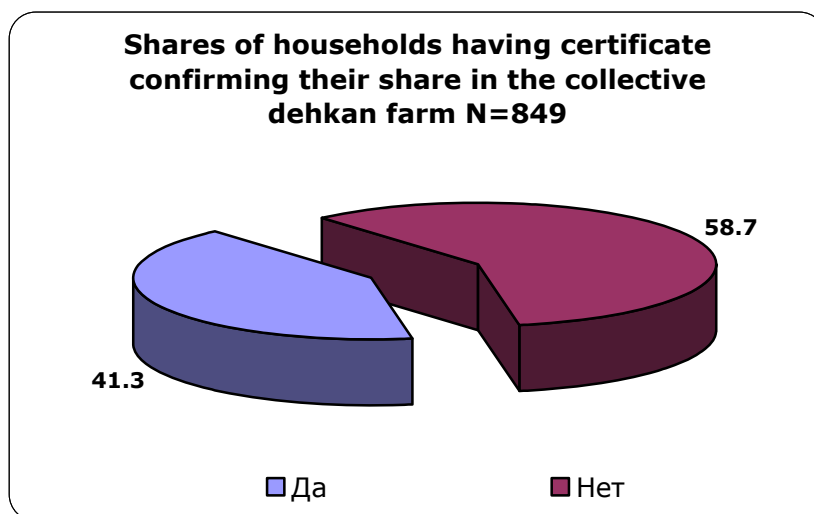


Table 16. Distribution of households according to availability of certificate on collective dehkan farm, N=849, %.

Production of agricultural produce

Potato is the main agricultural crop grown by 42% of respondents in Zaravshan valley. The second place is taken by wheat grown on arable land – 25.2% of households. Also, sufficient number of households grow Lucerne, apples, and apricots – not less than 10%.

The majority of households growing potatoes is in Gornaya Matcha district – 92.4%. Also the biggest number of those growing Lucerne lives in this district – 73.6%, in other districts this figure doesn't exceed 17%. In Ayni and Penjikent district the shares of households growing wheat on arable land are equal – 37.8% and 38.6% respectively. Only 6.2% of households in Penjikent district grow apricots but 15.8% grow apples while shares of households growing apples in other districts don't exceed 7%.

Table 26. Shares of households engaged in production of various agricultural crops for Zaravshan valley in general, N=2400, %.

Zaravshan valley	
Agricultural crops	Shares of households
Potato	42,0
Wheat on arable land	25,2
Lucerne	15,5
Apples	13,0
Apricot	11,6
Rice	8,1
Barley on rain-fed land	6,8
Barley on arable land	6,6
Wheat on rain-fed land	5,9
Grapes	5,5
Sainfoin	0,4

Table 27 presents the area of land under crops already examined by us (average per household). The average per crop was calculated taking into account those households that grow that particular crop. Main positions in the Table are taken by wheat grown on arable land, apples, and rice. The average size of land under these crops per household exceeds 1 ha.

Table 27 Average size of land per household (ha)

Zaravshan valley	
Agricultural crops	Average area per household
Wheat on arable land	3,2
Apples	1,5
Rice	1,2
Apricot	0,6
Potato	0,5
Barley on arable land	0,4
Lucerne	0,3
Wheat on rain-fed land	0,3
Grapes	0,3
Barley on rain-fed land	0,2
Sainfoin	0,1

Further we'll examine the average yield of agricultural crops per 1 ha. Thus, potatoes and apples produce the biggest yield. The average yield of these crops exceeds 7.000 kg/ha. Rice and barley on arable as well as rain-fed land produce the least yield.

The highest figures for potato yield are in Gornaya Matcha district where the average figure is 15 165.9 kg/ha. The highest figures for apples yield are in Penjikent district where the average is 8 036.4 kg/ha. See attachment for more detailed information for districts.

Table 28. Average yield of agricultural crops per ha.

Zaravshan valley	
Agricultural crops	Average yield per ha.
Potato	9 196,20
Apples	7 539,40

Grapes	5 459,50
Lucerne	5 246,20
Apricot	4 680,40
Wheat on rain-fed land	2 754,50
Wheat on arable land	2 270,00
Sainfoin	2 011,90
Rice	1 991,50
Barley on arable land	1 887,80
Barley on rain-fed land	1 407,90

It is obvious that the level of yield is influenced not only by weather conditions but also objective factors. One of such factors – methods of processing of agricultural crops – we'll examine now. The following Table presents these methods in the context of agricultural crops. In general, almost all important crops in Zaravshan valley are processed manually with the exception of rice and sainfoin as these crops are cultivated with the use of tractor. Cattle is mainly used for processing of grapes, potatoes, barley and wheat grown on rain-fed land.

Also, one can definitely say that manual labor is more often used in Penjikent district, work stock is used less of all in Ayni district but tractors in this district are used more often.

Table 29 Frequency of using methods of tillage; shares of households.

Zaravshan valley			
Agricultural crops	Methods of processing		
	Manual	Workstock	Tractor
Wheat on arable land	52,3	8,9	52,7
Wheat on rain-fed land	52,4	16,9	37,6
Barley on arable land	54,0	7,8	41,5
Barley on rain-fed land	52,6	11,8	21,8
Potato	87,7	11,1	6,0
Lucerne	71,3	5,4	13,9
Sainfoin	25,5	3,7	71,2
Apricot	45,7	3,7	47,0
Apples	65,5	2,9	2,2
Grapes	94,3	25,7	10,3
Rice	25,1	3,1	36,0

One of the most important conditions for improving yield is land fertilization. From the following Table one can see that in general for growing agricultural crops manure is used more often than mineral fertilizers.

More often manure is used for land fertilization for growing barley on rain-fed land, potato, grapes, and rice, while mineral fertilizers are used for growing wheat and barley on arable land, potato, and barley on rain-fed land. See detailed information in the attachment.

For calculation of households' shares and average figures only households growing these agricultural crops were considered.

Table 28. Land fertilization, shares of households, and average amount of fertilizers per ha.

Agricultural crops	Zaravshan valley					
	Manure, # of h/h using manure		Average kg/ha	Mineral fertilizers, # of h/h using mineral fertilizers		Average kg/ha
	Count	%		Count	%	
Wheat on arable land	410	40,6	5921,7	481	68,3	493,2
Wheat on rain-fed land	17	25,6	12265,8	47	53,2	1067,6
Barley on arable land	124	34,4	3084,4	145	69,5	337,5
Barley on rain-fed land	71	87,0	1493,2	42	55,0	224,5
Potato	1052	62,2	11695,8	932	53,7	867,1
Lucerne	223	27,1	5108,5	239	28,6	405,5
Sainfoin	1	0,2	67,4	1	0,2	53,9
Apricot	113	18,6	11246,4	74	15,7	676,7
Apples	53	25,9	5565,7	30	16,2	593,4
Grapes	62	71,2	1767,0	4	4,6	224,0
Rice	91	71,2	629,2	43	33,7	365,0

The frequency of irrigation also influence quality of harvest. Undoubtedly, different agricultural crops require different irrigation frequency that's why the following Table presents data in the context of agricultural crops. The frequency of irrigations is indicated for 2006 in general. Crops that are irrigated most rarely in Zaravshan valley are grapes and rice. The most frequently irrigated are barley and wheat grown on rain-fed land.

Examining frequency of irrigation in the context of districts, it becomes obvious that in general crops grown in Penjikent district are irrigated most frequently. For instance, on average wheat grown on rain-fed land in Penjikent district is irrigated 96 times while in other district this figure doesn't exceed 52 times. Barley grown on rain-fed land in Penjikent district is irrigated on average 96.4 times while in Gornaya Matcha this figure is significantly lower – 57 times. See attachment for more detailed information.

Table 29. The average number of irrigations for 2006.

Zaravshan valley	Agricultural crops	# of dehqan farms	%	Average frequency of irrigations
	Wheat on arable land	916	44,1	25,3
Wheat on rain-fed land	85	3,1	57,1	
Barley on arable land	242	14,6	27,9	
Barley on rain-fed land	85	2,9	67,4	
Potato	1436	77,1	32,2	
Lucerne	806	56,7	26,7	
Sainfoin	33	2,9	37,2	
Apricot	491	25,5	40,6	
Apples	229	9,2	42,9	
Grapes	59	1,9	9,2	
Rice	29	0,9	2,0	

We've examined production of major agricultural crops. Further we'll additionally examine other crops as well. As one can see from Table 30, over half of surveyed

households grow tomatoes, 49.8% - carrots. 1/3 of the respondents grow onion and cucumbers. A very small share of households grow mulberry and beans. A trifling share of households growing tomatoes is in Gornaya Matcha region – only 16.2%; equal shares of households in Ayni and Penjikent districts grow carrots – 50% each, and the share of households growing carrots in Gornaya Matcha district is 9% less than that. Shares of households growing cucumbers differ significantly from district to district. In Penjikent and Ayni district the share of such households is from 28% to 32%, in Gornaya Matcha districts it's only 9.6%.

In Table 30 the following crops were included in column "Other": cherries, sunflower, pears, corn, beetroot, plum, tobacco, pepper, flax, eggplant, quince, annual herbs, persimmon, figs, and apples. The share of producing households in these categories doesn't exceed 10%.

Table 30. Average frequency of irrigation of agricultural crops for 2006

Agricultural crop	Zaravshan valley	
	Count	%
Tomatoes	1039	57,0
Carrots	1139	49,8
Onion	789	39,8
Cucumbers	568	30,5
Cabbage	436	20,3
Beans	274	11,8
Mulberry	238	11,1
Peaches	207	10,9
Other	1208	65,4
Total	2400	100

Further we'll examine sources from which the respondents get manure, mineral fertilizers, seeds, saplings. The overwhelming majority of households in Zaravshan valley (93.9%) use manure from their own funds, and they purchase mineral fertilizers (81.9%) on the market in their districts. Half of the respondents (51.3% and 50.5% respectively) purchase potato and wheat seeds on their district market; 34.1% and 29.6% respectively use their own fund. Statistically equal share of households purchase seeds of Lucerne and tree sampling on their local market – 79.7% and 75% respectively. Among households growing barley this share is slightly higher and constitutes 81.1%. The share of those who indicated German Agro Action as a source of fertilizers, seeds or samplings doesn't exceed 0.3%. 8% of producers indicated that seeds are provided by the state. See attachment for more detailed information.

Cattle breeding

Further we'll examine information regarding cattle breeding. The Table below shows that over half of the households in Zaravshan valley own cows. The highest figures are in Gornaya Matcha district – 89.8% of all surveyed households. The share of households that have goats is 41.7% with the highest indices in Ayni district – 64.4%. 1/3 of the respondents in Zaravshan valley have sheep; more than half in Ayni district – 53.6%. 66.5% in Gornaya Matcha district, and only 28.6% in Penjikent district. 29.9% of the respondents have poultry with the lowest figures in Ayni district – 19.3%.

Table 31. Shares of households having cattle or poultry as well as the average figure per family in Zaravshan valley in general

Zaravshan valley					
Figures	Cows	Goats	Sheep	Poultry	Donkeys
# of households	717	309	531	303	442
% of households	65,0	41,7	36,5	29,9	37,8
Average per family	1,1	1,8	1,5	2,3	0,4

It was important for us to know how many households have milking cattle (not only cows but also goats). The maximum share of such households is in Gornaya Matcha district.

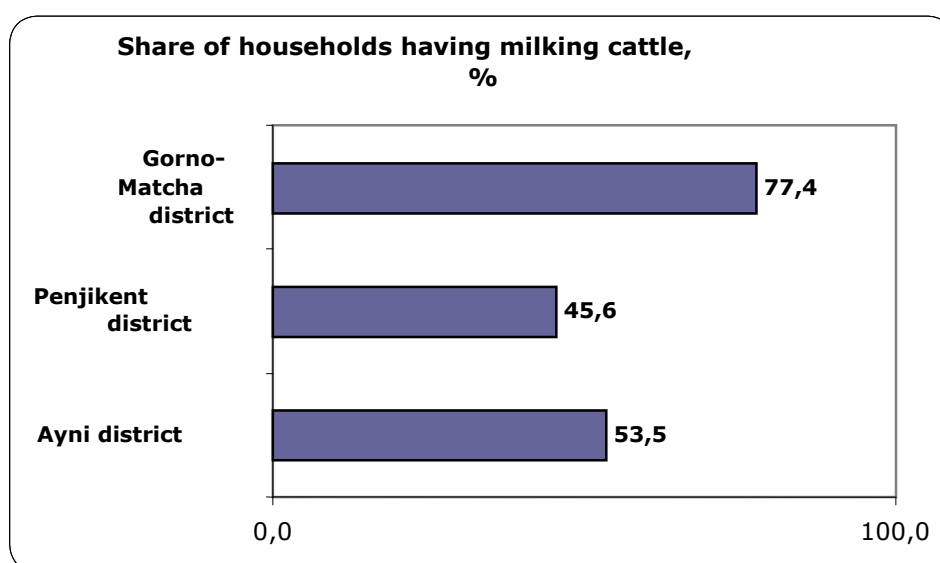


Diagram 17. Shares of households having milking cattle, N=2400, %.

2. 5. Access to services

Health

A possibility to get skilled medical assistance by the population of the state is one of the indices of economic development. That's why finding out about the accessibility of such services is very important for this survey.

As one can see from the below Table, less than 28.8% don't have access to a skilled specialist who is able to deliver a baby in their settlements; the biggest share of such respondents resides in Gornaya Matcha district – 59.3%.

83.3% of the respondents have direct access to health facilities. The biggest share of the respondents without access to the health facilities is also in Gornaya Matcha district – 41.4%.

72,2% of the respondents indicate that they have a professional health worker in their settlement. See attachment for more detailed information.

Table 32. Access to health services in Zaravshan valley in general, N=2400.

Answer options		Zaravshan valley	
		Count	%
Do you have a specialist who is able to deliver a baby in you settlement?	Yes	1398	69,4
	No	950	28,8
	Don't know	52	1,7
Is there a health facility in your settlement?	Yes	451	83,3
	No	330	14,7
	Don't know	17	2,0
Is there a professional health worker in your settlement?	Yes	401	72,2
	No	5	9,6
	Don't know	392	18,2
Total		798	100

In Ayni district respondents usually go to Ayni to get health assistance (32.4%). Half of the respondents go to settlements that are located 30 or more km. from their place of residence, and only 25.9% of the respondents go to settlements that are located 10 or less km. from their place of residence. 39% of households in Penjikent district go to the settlement that is located over the distance of up to 10 km. from their place of residence. 22.3% of the respondents go to settlements that are located over the distance of more than 30 km from the place of residence.

Population of Gornaya Matcha district usually go to Ayni – 31.6% of households. A little less than half of the respondents go to the settlements located over the distance of up to 30 km. from their place of residence(48.5%), ¼ of the respondents go to settlements that are located over the distance of more than 30 km. from their place of residence to get professional health care.

Education

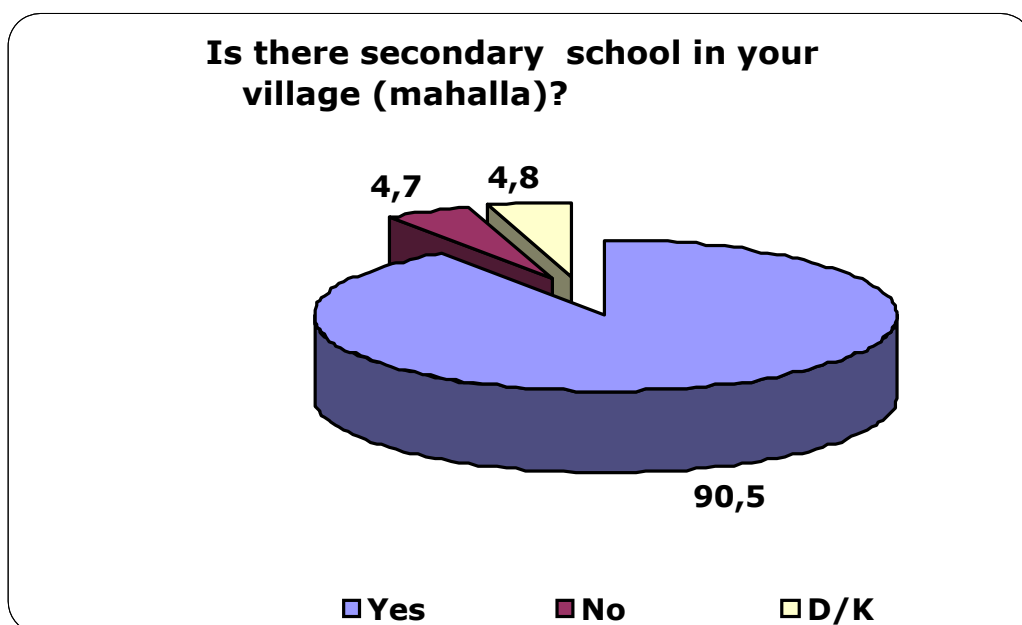


Diagram 18. Distribution of answers to the question "Do you have a secondary school in your village (mahalla)?" N=2400, %.

During the survey it was also important to detect whether all the respondents have an opportunity to educate their children in secondary schools. Thus, it was found out that the overwhelming majority of respondents have access to secondary school. The highest percentage of households that don't have access to secondary school is in Gornaya Matcha district – 6.5% of the total number of surveyed households.

Further we've surveyed only those respondents who have secondary schools in their villages (N=2180). 82.4% of them have schools providing 11-years education. The smallest percentage of such respondents is in Gornaya Matcha district – 58.5%. The highest figure is for Ayni district – 90.7%. 15.9% indicated that schools in their settlements provide only 9-years education, and less than 1% of the respondents indicated that schools in their settlements provide only 4-years education. The biggest share of households having access only to 9-years education is in Gornaya Matcha district and represents only 35.1% while in Ayni district such households comprise only 6.9%.

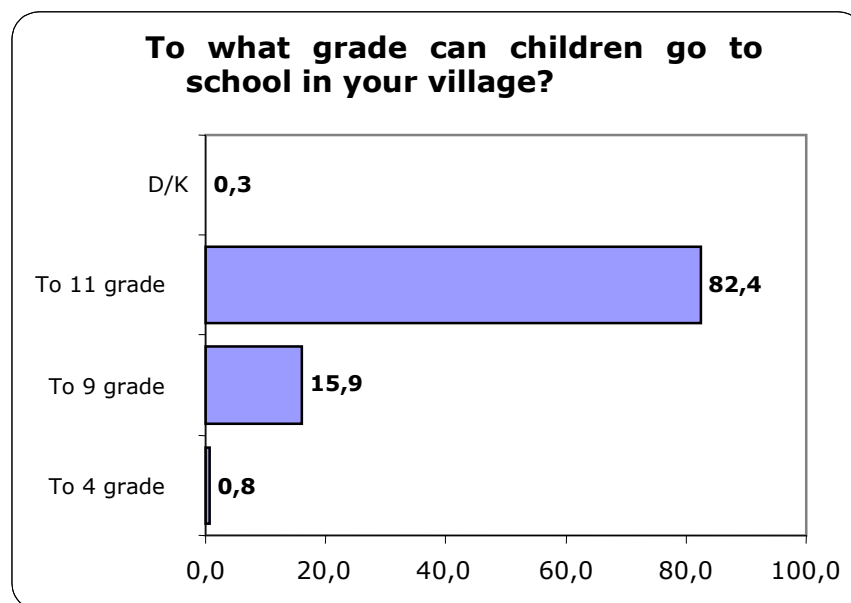


Diagram 19. Distribution of answers to the questions "To what grade can children study in school in your village?" N=2180, %.

In Ayni district 50% (N=312) of the respondents after incomplete secondary education will send their children to Dushanbe to continue education, over 1/3 of the respondents (37.5%) plan to send their children to Hujand, while statistically equal shares of the respondents noted Penjikent and Shahr as places for continuing education (13.5% and 15.4% respectively).

23,1% of respondents in Ayni district plan to send their children to settlements that are located within 10 km from their place of residence, 3.8% indicated settlements that are located within 10-100 km from their place of residence, and 19.6% indicated settlements that are located over the distance of more than 100 km from their place of residence.

23,3% of surveyed in Penjikent district noted that after getting incomplete secondary educations their children will continue their education in Penjikent.

For 48.4% of those surveyed in Penjikent district a probable place for continuing education for their children is located within 10 km from their place of residence; 35.8% indicated settlements that are located within 10-100 km from their place of residence, and 25.3% indicated settlements that are located over the distance of more than 100 km from their place of residence.

The respondents in Gornaya Matcha district most often noted Hujand (58.1%) and Dushanbe (18.2%).

The overwhelming majority of respondents in Gornaya Matcha district indicated settlements that are located over the distance of more than 100 km from their place of residence as probable places for their children to continue education (94.5%), and only 16% of the respondents indicate such settlements that are located over the distance of less than 10 km from their household.

"Is transportation for transporting children to school available in your settlement?", N=2068, %

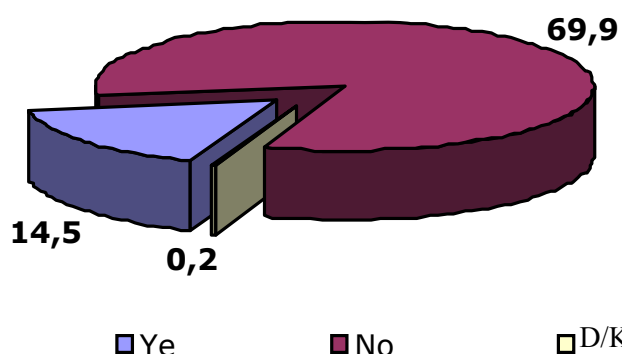


Diagram 19. Availability of transportation for transporting children to schools, N=2068, %.

Over half of households don't have means of transportation for transporting children to schools in their settlement – 69.9%. The biggest share of those who have means of transportation for transporting children to schools in their settlement is in Penjikent district – 17.45% of the respondents in this district. The minimum figure is in Gornaya Matcha district – 3.9%.

Girls from over half of the surveyed households in Zaravshan valley attend secondary schools (diagram 20); in 24,2% of families there are no school-age girls. The lowest figure of families where girls don't go to school is in Penjikent district – 6% in comparison to Gornaya Matcha – 10.9%, Ayni district – 13.7%.

Do girls from your household attend secondary school?

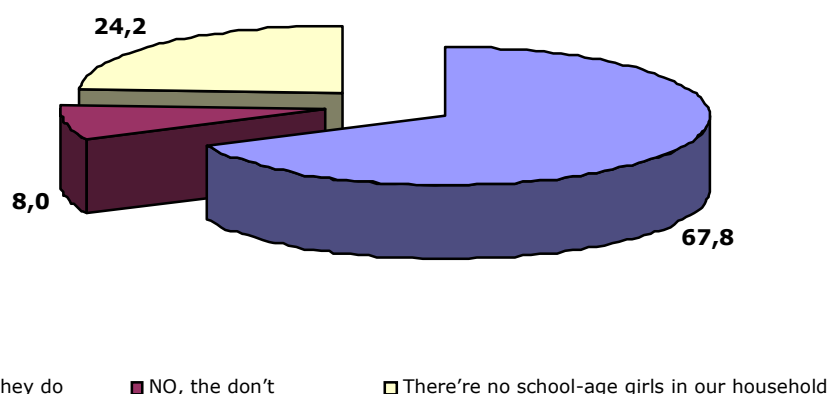


Diagram 20. Do girls from your household attend secondary school, N=2400, %.

The biggest share of households members of which study in the institutes of higher learning is in Ayni district – 27%; the minimum figure is in Gornaya Matcha district – 11.8%. In general, in Zaravshan valley the percentage of such households reaches 17.7%.

The share of households the members of which don't study in the institutes of higher learning is significant – 82.3% or 1969 households. Out of this number 55.4% of respondents would like their children to attend short-term educational courses – 1171 families. The highest percentage of such families is in Gornaya Matcha district – 74.7%.

For instance, the share of such households in Penjikent district is 58.1%, in Ayni district – 42.6%.

It was interesting for us to know what courses they would like their children to attend. The respondents were offered several options of answer and they could indicate more than one option.

The results of the survey showed that in general in Zaravshan valley the most popular courses for males are computer literacy courses – 82.9% of the respondents. Foreign language courses are on the second place – 63.9% of the respondent. Also technical courses are quite popular – 32.1% of the respondents. Almost equal shares of respondents indicated educational courses on various subjects, and accounting and audit courses – 15.8% and 13.4% respectively.

The most popular courses for women were computer literacy and foreign language courses – 67.4% and 64.9% respectively. Also technical courses for females are popular – 42.7%. Other courses received not more than 10% of the votes.

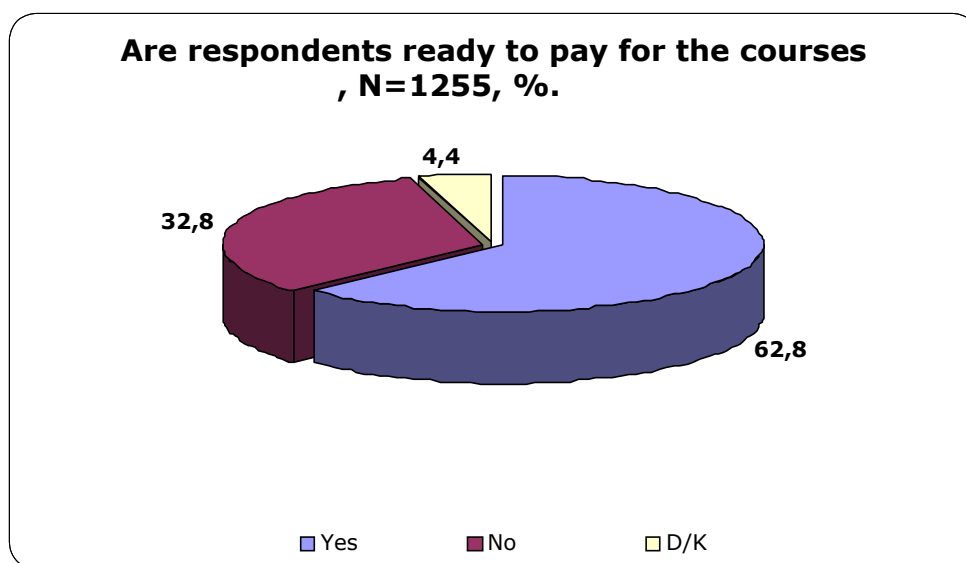


Diagram 21. Are the respondent ready to pay for the courses, N=1255, %.

Over half of the respondents who are willing to study are ready to pay for education. Out of them the smallest figure is in Gornaya Matcha district – 39.1% while in other districts that index is not lower than 63%. In Gornaya Matcha district one can also see the maximum share of those who are not willing to pay for education – 56% of the respondents.

Those respondents who expressed their willingness to attend the courses were asked to answer the question whether they want Jamoat development center to receive credits for organizing such courses. 89.7% of the respondents in Zaravshan valley gave positive answers, and 10.1% answered negatively, other said that they don't know. The biggest number of those who answered negatively is in Ayni district – 14.4%.

Municipal services

It was also important to know the situation with water and electricity use in the region.

All households participating in the survey were asked questions about municipal services. The following Table shows the most frequently used sources of potable water for households. The highest percentage of those using central water-supply is in Penjikent district – 16% while in Gornaya Matcha – only 0.5%.

In Ayni district the main sources of potable water are rivers, lakes, ponds, canals (41.25), water-pipes outside house (41.7%) and water brought in water tanks (10.7%). In Penjikent district the mains sources of water are also rivers, lakes, ponds and canals as well

as water-pipes outside the house (30.8% and 34.7% respectively). Significant share is also given to springs (13.9%), central water-pipe (16.5%) and water brought in water tanks (12%). In Gornaya Matcha district half of the respondents use rivers and lakes (49.9%) and almost equal shares of respondents use water brought in water tanks and water-pipe outside their house (39.5% and 30.7% respectively).

Table 33. Sources of potable water: shares of households for Zaravshan valley in general, N=2400.

Options of answers	Zaravshan valley	
	Count	%
Water-pipe outside house	926	36,6
River, lake, pond, canal	974	34,3
Central water-pipe	204	13,7
Spring	284	12,9
Water brought in water tanks	427	12,7
Well	36	2,9
Pump	19	0,9
Precipitations	9	0,7
Bore hole	3	0,2
Don't know	42	1,5
Total	2400	100

The following Table shows the number of respondents in Zaravshan valley who pay for water supply as well average payment for water per year. It also shows minimum and maximum payment for water.

Table 34. Share of respondents paying for water supply, average payment, minimum/maximum (per year) for Zaravshan valley in general, N=2400.

Options of answers	Ayni district	
	Count	%
Yes	618	41,7
No	1782	58,3
Total	2400	100
Average	28,0	
Minimum	1	
Maximum	360	

The lowest payment for water supply is in Gornaya Matcha district – 13.3 somoni per year. Maximum is in Ayni district – 360 somoni per year.

11,3% of respondents indicated that they don't have steady water supply in their households all year round. The maximum percentage of such households is in Penjikent district – 14%. We asked respondents to indicate when they don't have steady water supply and they indicated winter period starting from December – 42.9% to February – 34.2%. The smallest number of respondents indicated April (19.3%) and May (17.4%). We'd like to note Gornaya Matcha district where the overwhelming majority of respondents indicated January, February, and December - 77.1%, 73.5%, and 71.1% respectively. See attachment for more detailed information.

In Ayni district 18% of the respondents indicated that they don't have water at all during the above mentioned months; in Penjikent district 15.2 of the respondents indicated that during this period they have water 2 hours a day, and 14% said that they don't have water at all. In Gornaya Matcha district 13.3% of the respondents indicated that during problematic months they have water on average 1 hour per day and 12% said that they have water only 1 hour per day.

Even when households don't have steady supply of water the majority of the respondents indicate that they are willing to pay for steady water supply to their

households. In the context of district one can see that population of Ayni district is most willing to pay for steady water supply – 77.2% where n=797, while 40.4% of population in Gornaya Matcha district answered that they are not ready to pay for steady water supply.

To the question on availability of public bath-house 74.1% of the respondents in Zaravshan valley answered that they don't have public bath-house in their village/mahalla. The highest percentage of those who answered negatively to this question is in Gornaya Matcha district – 91.9%. Also this figure is high in Ayni district – 89.7%. See attachment for more detailed information.

On the following diagram one can see the distribution of respondents in answer to the question whether they visit public bath-house. Only those respondents who answered that they have a public bath-house in their village/mahalla.

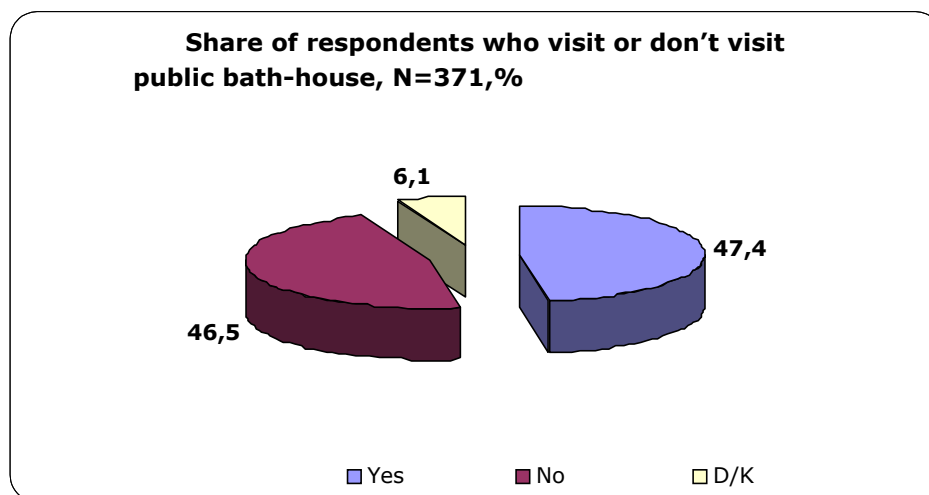


Diagram 22. Shares of respondents who visit or don't visit public bath-house, N=371,%.

In the following Table one can see reasons why respondents or members of their households don't visit public bath-houses. See attachment for more detailed information in the context of the districts.

Table 35. Reasons of why respondents don't go to public bath-houses, share of respondents paying for water supply, minimum/maximum (per year) for Zaravshan valley in general, N=2400.

Reasons	Ayni district	
	Count	%
It doesn't work	27	14,3
Personal (own) bath	17	10,4
No money	6	3,4
No	5	3,12
Don't want	2	1,4
No conditions	2	0,9
Sold	1	0,62
Don't have opportunity	1	0,6
Can't go due to age	1	0,6
Don't know	120	64,5
Total	182	100

Further we'll examine use of various sources of energy for domestic purposes by households.

In summer in Ayni district population uses gas for cooking (58.3%), coal is also used often (49.9%). In winter time they more often use coal (58.8%), firewood (33.3%), and

gas (32.65) for cooking. Also in this district people use coal (37.35), electricity (32.4%), and firewood (32.5%) for heating.

In summer time in Penjikent district population uses electricity (46.7%) and gas (39.3%) for cooking. In winter time electricity is used more frequently (76.6%) for cooking, and gas (93.15%) for heating.

In Gornaya Matcha district in summertime population uses bushes for cooking – 80.6%. in wintertime the share of household using bushes is a little lower – 74.6%. For heating during wintertime population uses diesel and kerosene.

The next important question is use of electricity. From the following Table one can see that population of Zaravshan valley in general receives centralized electricity while in Gornaya Matcha district - 33.3%, n=798

Table 36. Availability of centralized electricity supply in households in Zaravshan valley in general, N=2400.

Options of answers	Zaravshan valley	
	Count	%
Yes	2049	93,9
No	315	5,2
Don't know	36	1,0
Total	2400	100

See attachment for more detailed information. As to the volume of electricity supply, in all three districts of Zaravshan valley volume of supply depends on the season. Only population of Penjikent district has electricity the whole day – 5.7%, n=76; population of Gornaya Matcha district doesn't have electricity 24 hours a day,

Table 37. Frequency of electricity supply in households for Zaravshan valley in general, N=2400.

Options of answers	Zaravshan	
	Count	%
24 hours per day whole year	54	4,3
Several hours per day	154	7,2
Depending on the season	1841	82,4
Total	2049	63,8

Further we'll examine during what season electricity cut-offs occur most often. When answering this question respondents could indicate several months when the electricity supply is not steady.

Table 38. Periods of unsteady supply of electricity to households, N=2400.

Months	Zaravshan valley	
	Count	%
January	1561	82,1
February	1822	98,9
March	1817	99,1
April	1589	79,9
May	1047	51,9
June	16	0,6
July	15	0,6
August	16	0,7
September	150	13,7
October	1647	86,2
November	1804	97,9
December	1813	98,7

Total	2400	100
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Speaking on the sources of energy, it's necessary to note that the majority of population of Zaravshan valley doesn't use alternative sources of energy (92.5%). Although 37% of respondent in Gornaya Matcha district answered that they use alternative sources of energy in their households.

When alternative sources of energy are used, the preference is given to small hydro plants as it is used by 98.3% respondents in Gornaya Matcha district (n=295), in Ayni district besides small hydro plants (48.6%, n=35) respondents also indicated that they use benzene generator – 37.1%. When answering this question the respondents could indicate several options.

Table 39. Sources of energy used, N=334.

	Ayni district		Penjikent district		Gornaya Matcha district		Zaravshan district	
	Count	%	Count	%	Count	%	Count	%
Small hydro power plant	17	48,6	0	0	290	98,3	307	16,7
Diesel generator	6	17,1	0	0	4	1,4	10	4,1
Benzene generator	13	37,1	2	100	2	0,7	17	2,0
Total	35	100	2	100	295	100	334	100

Further it was necessary to find out if population of Zaravshan valley is ready to pay for steady electricity supply. The results indicate that 68.5% of population of Zaravshan valley having problems with electricity supply are ready to pay for steady electricity supply *68.5%, n=789). The highest percentage of people who are ready to pay for continuous electricity supply lives in Penjikent district – 74.3%, n=759.

For Zaravshan valley in general only 68.5% of the surveyed are ready to pay for uninterrupted electricity supply; 12.2% are not ready, and 1.5% of the surveyed don't know.

2. 6. Housing type and property

The goal of this survey was also to determine the type of housing and property.

The overwhelming majority of households (in all districts this index exceeds 91%) have their own house, from 73% to 79% of households in every district have toilets (cesspools) in their houses. 75% of the surveyed in Penjikent district have TV sets, in Ayni district -66.9%, in Gornaya Matcha district – 46%. Over half of the households in every district have cattle-pens (from 54.3% to 62.4%).

Within the framework of this survey the question about availability of some property in the household was asked, the year the property was produced or built. The results of the survey show that the majority of acquisitions was made after 1992. before 1992 population of Zaravshan valley bought the majority of houses (76.6%), refrigerators (62.8%), cattle-pens (71.5%), sewing machines (64.8%). See attachment for more detailed information.

The following Table shows that the main type of housing in all three districts of Zaravshan valley is private housing (94.9% of the respondents). The share of other types of housing is insignificant.

Table 40. Distribution of respondents regarding housing type, N=2400.

Type of housing	Zaravshan valley	
	Count	%
Private	2273	94,9
Ведомственное	9	0,3
Belonging to some institution	28	1,1

Rent	58	2,3
Don't know	32	1,4
Total	2400	100

As to the condition of the housing, it is necessary to note the fact that the majority of respondents in Zaravshan valley evaluate the condition of their housing as requiring repairs (64.5%). The majority of such respondents resides in Gornaya Matcha district (75.8%, n=798). Comparing all three districts, the highest percentage of those who say that their housing is in good condition resides in Penjikent district – 28.4%, n=805 .

Also, within the framework of the survey an important question to be asked was threat to houses and villages. In general, in Zaravshan valley 42.7% of the surveyed maintained that there is a threat to their houses and villages. It is necessary to note that half of the surveyed see mudslides as threat to their houses (51.1%) and villages (55.2%). Share of those who see earthquakes, floods, landslides as a threat to their houses fluctuates between 15.8% to 25.8%. The share of those who see similar threats to the villages is from 22% to 30.4%. Only 17% of the surveyed indicated that they don't see any threat to their houses and 21.1% are confident that there is no serious threat to their villages. See attachment for more detailed information.

Table 41. Distribution of the respondents regarding possible threat to their houses and villages, N=1242.

Distri ct	Threat	Threat for houses		Threat for villages	
		Count	%	Count	%
Zaravshan valley	No threat	192	17,0	241	21,1
	Earthquake	378	25,8	400	30,4
	Flood	184	15,8	226	22,0
	Landslide	330	22,4	411	28,0
	Mudflow	603	51,1	663	55,2
	Fire	9	1,0	13	1,6
	Rain	1	0,2	0	0,0
	Falling rock	17	0,4	8	0,2
	Wind	5	0,3	7	0,3
	Avalanche	10	0,3	8	0,2
	Total	1242	100	1242	100

To the question about landmines on the border territory adjacent to the villages, the majority of the respondents (56.6%, n=1235) noted that there are no land mines but, nevertheless, there are some respondents (for instance, 41%, n=473) of the respondents in Ayni district who think that there are land mines in the villages.

2. 7. Social life of the household

Social life is the next important aspect of life of population of Zaravshan valley.

The following diagram shows who of family members makes decision most often. One can see that in households of Zaravshan valley in general important decisions are made by male (the head of the household) – 88.5% (n=2400). In other cases when a woman is the head of the household due to certain reasons, the important decisions are made by woman – 8.9%. The highest percentage of men making important decisions in the families is in Gornaya Matcha district (90.4%). In Ayni and Penjikent district the share of men making decisions in the families is almost equal. The majority of women – heads of households making important decisions is in Penjikent district (9.8%), Ayni and Gornaya Matcha district – 6.8% and 5.5% respectively.

**Who of family members makes important decisions:
distribution of households,
N=2400, %**

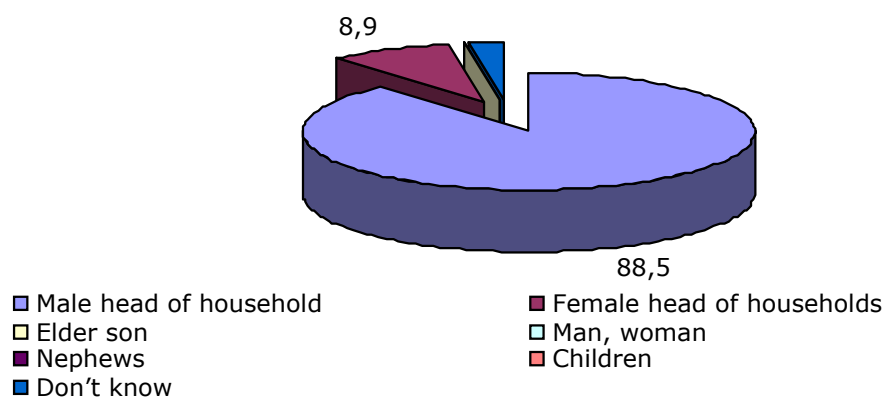


Diagram 23. Shares of households where important decisions are made by other family members, N=2400, %.

Further we'll examine social activity of the respondents.

One can see that the majority of population of Zaravshan valley (in all three districts) are representatives of the mahalla council (72.2%), n=267). The highest percentage of representatives of this organization is in Ayni district – 78.7%, n=503. As to Penjikent district, almost 49% of the surveyed answered that they are members of Women's committee and Jamoat Development Committee. For instance, in Gornaya Matcha district the indices for these committees are much smaller – 20.8% and 12.6% respectively. Also, a small percentage of the surveyed in Gornaya Matcha district answered that they are the representatives of the Local Initiative Group – 17%, n=159 while in Penjikent and Ayni district almost 40% of the surveyed are representative of the initiative group.

Table 41. Participation in social organizations: distribution of the respondents N=2267, %.

Social organizations	Zaravshan valley	
	Count	%
Mahalla committee	770	72,2
Women's committee	403	44,9
Youth committee	275	19,7
Jamoat development committee	373	43,8
Local initiative group	412	40,8
NGO	19	1,2
Hiloli Akhman	1	0,0
Total	2267	100

It is also important to know what meetings population of Zaravshan valley attends.

To the question "Do members of your household attend the following meetings?" the highest percentage of the surveyed in Zaravshan valley in general answer that they attend general village meeting, initiative group meeting and mahalla committee meetings – 89.1%, 40.9%, 51.8% respectively.

Table 42. Reasons for quarrels among neighbors: distribution of respondents, N=2176, %.

Meetings	Zaravshan valley	
	Count	%
Don't attend	10	1,0
General village meeting	2055	89,1

Initiative group meeting	856	40,9
Mahalla committee	1035	51,8
Local NGO	338	11,2
International organization	613	24,8
Family meeting	5	0,5
School meeting	12	1,2
Work meeting	6	0,6
Kindergarten meeting	2	0,2
Total	2176	100

Within the framework of the survey it was found out that quarrel among neighbors and neighboring settlements are rare but it is necessary to note that some quarrels take place.

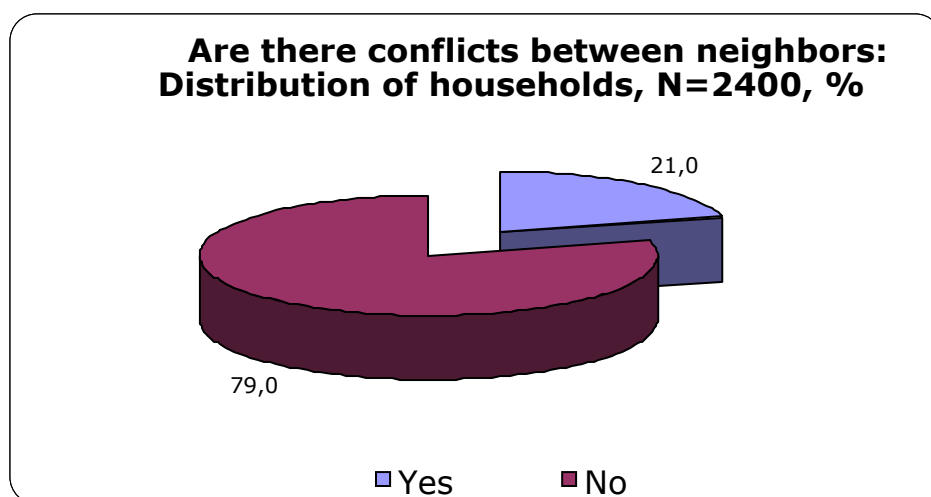


Table 24 Shares of households having quarrels with neighbors, N=2400, %.

Main reasons for such quarrels are water and land use. 90% of the respondents in Zaravshan valley indicated water use as the main reason for quarrels. In general, reasons for quarrels are indicated in the following Table.

Table 43. Participation in various meetings: distribution of the respondents, N=2400, %.

Reasons for quarrels	Zaravshan valley	
	Count	%
Water use	341	85,0
Land use	235	51,1
Fuel	10	1,9
Education	1	0,2
Transportation	3	0,7
Children	3	1,0
Road	10	1,5
Electricity	1	0,2
Benzene sales	1	0,4
Cattle	2	0,1
Cleanliness	1	0,2
Total	608	100

Further we'll examine whether disputes or quarrels occur between neighboring settlements at least sometimes.

On the following diagram one can see the answers to this question for Zaravshan valley in general.

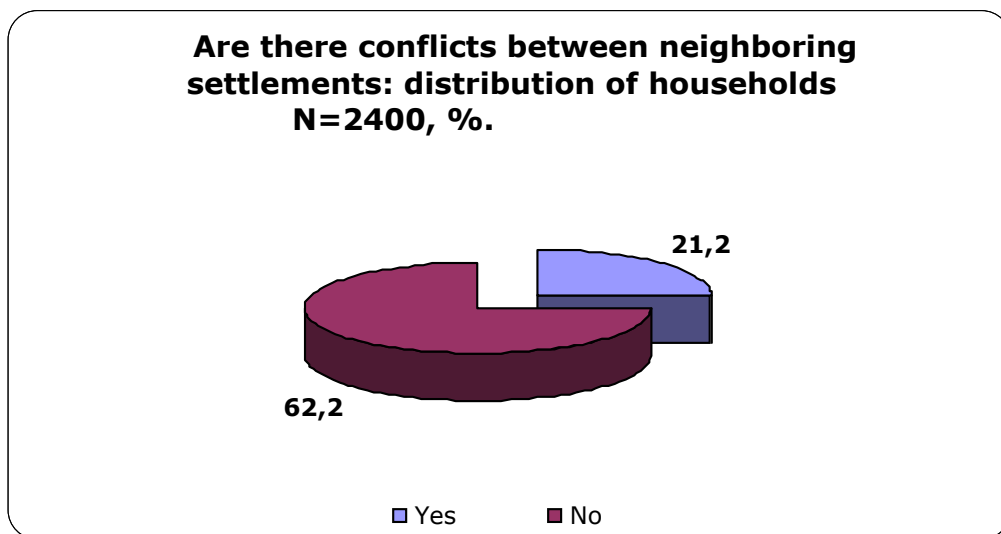


Diagram 25. Shares of households that indicated that quarrels between neighboring settlements occur, N=2400, %.

As one can see for the diagram, 21% of the households indicated that quarrels and disputes between neighboring settlements occur. The lowest percentage of such respondents resides in Gornaya Matcha district – 11.2%; In Penjikent and Ayni district – 18.6% and 22.9% respectively. Further we'll examine main reasons for quarrels and disputes. The reasons are indicated in the Table.

Table 44. Reasons for disputes and quarrels between neighboring settlements: distribution of respondents, N=2176, %.

Reasons for quarrels	Zaravshan valley	
	Count	%
Water use	346	90,1
Land use	200	43,1
Fuel	11	2,4
Education	3	0,9
Transportation	4	0,9
Children	3	0,5
Road	3	0,4
Cleanliness of streets	2	0,3
Total	421	100