

Gender, Water, and Agricultural in Central Asia

by

Galina Stulina ⁽¹⁾, Catherine Senecal ⁽²⁾

(1) Doctor, Interstate Commission for Water Coordination, 11 Karasu-4, Tashkent, Uzbekistan, 700187, phone: 998-712-65-16-58, email: stg@hotbox.ru

(2) Doctor, McGill University, Brace Centre for Water Resources Management, 21 111 Lakeshore Road, Ste-Anne-de-Bellevue, QC, H9X 3V9, phone: 514-398-7834, fax: 514-398-7767, email: Catherine.senecal@mcgill.ca

The world over, greater attention is being paid to gender issues. That is, to issues of equal rights and opportunities for men and women. Humanity is aiming towards development and towards improved standards of living, and in doing so, tries to identify and remove obstacles to these goals. From global experience, solutions to various gender-related problems depend on the degree of the development of equal rights for men and women, as well as the culture of gender relations. Gender inequality is still an unresolved issue for many developing countries, especially in the East where Muslim traditions and customs are prominent. The coordinated work of local specialists and a Canadian team of water and agricultural experts permitted gender issues the sector to be addressed. These issues have been raised for several years in Central Asian Region (CAR) without being practically addressed until now. These issues are identified in all sectors, but in the agriculture and water sector, where traditions and prejudice are stronger than in any other area, the above-mentioned problems are insufficiently dealt with. The relationship between agro-socio-economic indicators and poverty in CAR is shown. As well, women's status under existing conditions is described. A survey titled "Gender Aspects Relating to Access to and Management of Water Resources" was conducted by the Interstate Commission for Water Coordination together with McGill University Canada, in the Republics of Uzbekistan, Kazakhstan and Tajikistan. From the conducted survey, it was concluded that the problems of rural women are very critical and these include limited access to water, land, financial and physical resources, as well as to education and culture. Most rural women have certain limitations in the realization of available opportunities due to insufficient skills and non-awareness of women in the field of water and land resources management. The study showed that gender roles in the rural family are changing. Severe financial situation in rural families force women to do hard low-paid day-work for more prosperous farmers. It was determined that there is a considerable difference in the gender balance between the three Republics.

INTRODUCTION

The international practices show that one of the important conditions for development of democratic civil society is the protection of human rights at all levels, in particular women rights.

At present, all over the world great attention is paid to gender issues, in other words to issues of equal rights and opportunities for men and women. No wonder! Humanity aims at improvement of living, at development and tries to identify associated obstacles and remove them.

From the world experience, solution of various gender-related problems depends much on the degree of development of equal rights for man and woman and the culture of gender relations. This is difficult to achieve if women are not respected and treated equally as men, socially favorable environment is not created for them, their status is not improved in family and society, and they are not widely involved in

decision making. In this context, a need to remove stereotypes related to sex differentiation was underlined in the World Declaration made at the International UNESCO Conference (Paris, 1998).

Sometimes we hear voices that gender equality is not typical for Moslems. But even Al’-Farabi noted (**IX century!**) that human-being works out his own destiny, his happiness, and all people have equal rights by birth.

Gender issues have been raised for several years in Central Asian region. These issues are addressed in all sectors, but in agriculture and water sector, where traditions and prejudice are stronger than in any other area the above-mentioned problems are insufficiently uncovered. Given presentation will try to show the relationship between agro-socio-economic indicators and poverty in CAR, as well as to describe women’s status under existing conditions. The presentation is based upon sociological survey, titled “Gender and Water”, which was undertaken by SIC ICWC together with Canadian McGill University under the Project “Addressing Water Scarcity and Drought due to Climate Change in Central Asia”.

Keywords: Central Asia, gender, water, agriculture, poverty.

WATER, AGRICULTURE, GENDER

The Central Asian region (being a part of CIS) is comprised of five states located in the Syrdarya and Amudarya river basins. Those are Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Each of these states is trying to find and follow its own, different from others path of economic development. However, one of the common challenges for new developing democratic societies is women’s status in this region.

The total area of Central Asian states located within the Aral Sea basin is about 4 Mkm², of which: Kazakhstan - 2717 thousand km²; Kyrgyzstan – 198,5 thousand km²; Tajikistan – 143,1 thousand km²; Turkmenistan – 488,1 thousand km²; and, Uzbekistan – 448,8 thousand km². Out of this total area about 590 thousand km are cultivable, of which only 10 Mha are actually used. The irrigated area (2000) is 8.1 Mha.

Population in Central Asian states

Data on population in each of states as a whole and in states’ regions, which are located in the Aral Sea basin are given in *Table I*.

*Table I – Actual and predicted population in Central Asian states and in the Aral Sea basin * (million)*

Year	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Total
1990	16,7	4,3	5,4	3,7	20,3	50,4
	2,5	1,8	5,4	3,7	20,3	33,7
1995	16,0	4,6	5,9	4,6	22,9	54,0
	2,5	2,0	5,9	4,6	22,9	37,9
2000	14,9	4,9	6,1	5,4	24,6	55,9
	2,6	2,2	6,1	5,4	24,6	40,9
2010	15,7	7,6	7,3	8,6	30,1	69,3
	3,1	2,7	7,3	8,6	30,1	51,8
2025	25,9	8,4	9,0	13,1	40,3	96,7
	4,8	3,5	9,0	13,1	40,3	70,7

* *Population of the regions located within the Aral Sea basin is shown in italics.*

Forecasts of population growth for 2010-2025 were made by local experts. Those show that population in Central Asian states will increase from 55,9 million (2000) to 96,7 million (2025), indicating to

annual growth rate of 2,2 %. Slightly different forecast for 2025 was presented by UN Department for Population (*Table II*).

Based on UN data, by 2025, total population in Central Asia will amount to 71,1 million. This indicates to moderate mean annual growth rate of 1,3 %.

Most population in CAR lives in rural area (*Table II*). Rural population amounts to 72 % of total population in Tajikistan, 66 % in Kyrgyzstan, 63 % in Uzbekistan, and 55 % in Turkmenistan. In Kazakhstan, this indicator is opposite, i.e. rural population is minor (44%) in total population of the republic. This reflects the high specific weight of industry and construction in general production pattern.

Table II - Actual and predicted urban and rural population in CAR (FAO's data)

	Year	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Urban population (%)	1990	57	38	32	45	40
	2000	56	34	28	45	37
	2015	58	36	30	50	38
	2020	60	38	33	53	41
Rural population (%)	1990	43	62	68	55	60
	2000	44	66	72	55	63
	2015	42	64	70	50	62
	2020	40	62	67	47	59

Source: Database "Aquastat", FAO (2002).

According to FAO's forecasts, the percentage of rural population will considerably decrease by 2020 as compared to 2000: by 4 % in Kazakhstan, Kyrgyzstan, and Uzbekistan; by 5 % in Tajikistan; and, by 8 % in Turkmenistan. Nevertheless, the share of rural population will remain substantial.

Occupational pattern

One of the main production sectors in Central Asian republics is agriculture. The share of agriculture in gross domestic product (GDP) is 22% in Kazakhstan, 53% in Kyrgyzstan, 36% in Uzbekistan, 68% in Tajikistan, and 48% in Turkmenistan. With the changes in political conditions, since the collapse of USSR, considerable shifts have taken place in production and occupational patterns in new independent states. Besides, economic relations between producers and the state have changed.

Role of agriculture in the countries has changed to different degrees. According to GDP structure in current prices, the share of agriculture in the general production substantially decreased in Uzbekistan and, particularly, in Kazakhstan. In Kyrgyzstan, on the contrary, this share appreciably increased. Moreover, re-agrarization of Kyrgyz economy can be traced in estimations made on the basis of both current prices and fixed prices.

Particularly intensive shifts in production patterns were observed in Kazakhstan and Kyrgyzstan in

Table III – Occupational pattern in agriculture

State	Men, %	Women, %
Kazakhstan	76,7	23,3
Kyrgyzstan	79,3	20,7
Tajikistan	73,9	26,1
Turkmenistan	76,1	23,9
Uzbekistan	77,5	22,5
Total in the region	76,7	23,3

1990-2000 due to deep internal and external liberalization undertaken in these republics. As to Uzbekistan, which refused from shock liberalization and, to a larger extent, retained command economy, shifts in the production pattern were not so visible.

Our task is to illustrate role of women in agricultural production in CAR. According to TACIS WUFMAS Project, men and women occupations in agriculture are as follows TACIS "WUFMAS"

Table III shows that 23% of women are occupied in agriculture in the region as a whole. Figure 1 gives details on women's work in agriculture.

The figure shows that the percentage of women busy with managerial activities ranges from 10 % in Tajikistan to 25 % in Kyrgyzstan. Share of woman technicians varies from zero in Turkmenistan to 16 % in Uzbekistan. The percentage of women as permanent and seasonal workers varies from 38 % to 71 %; this means that women are involved mainly in unskilled and rough labor (Figure 2).

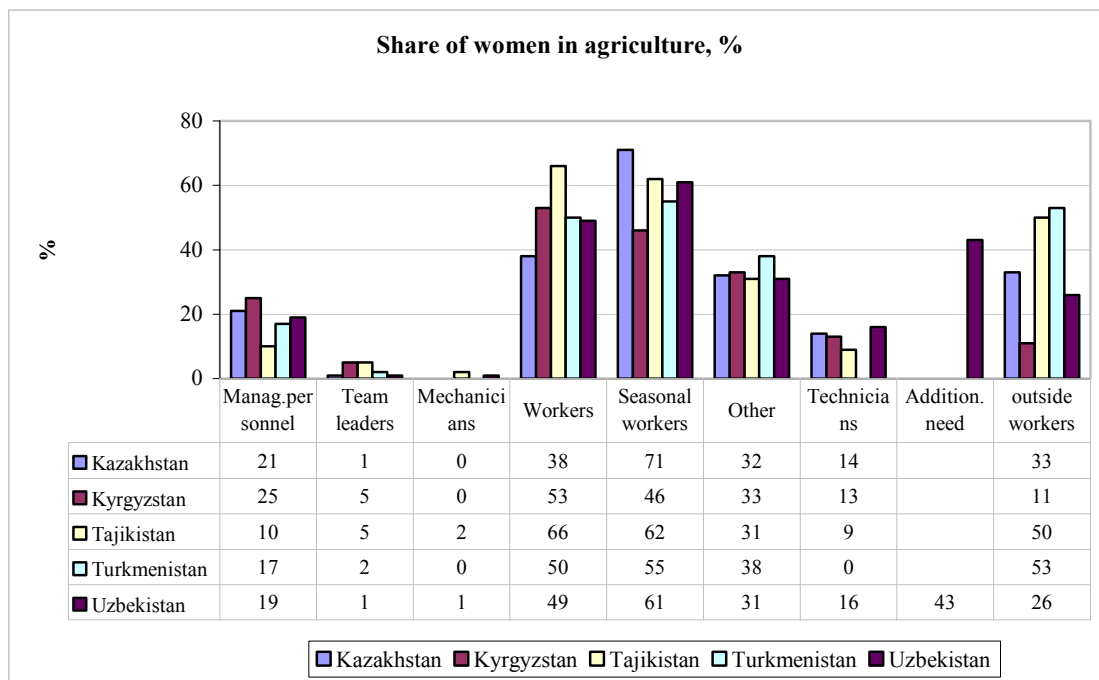


Figure 1 - Share of women occupied in agriculture

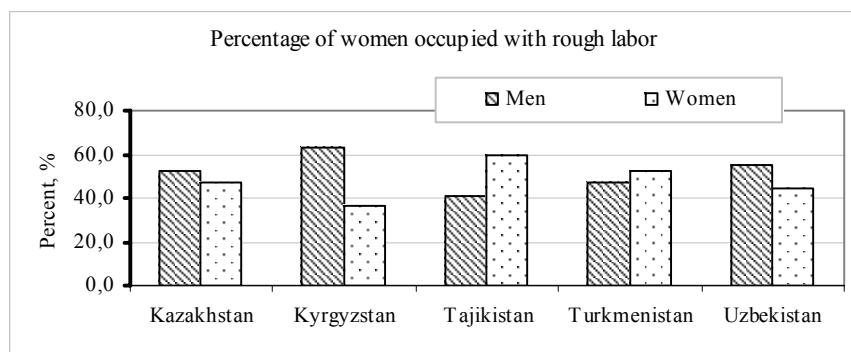


Figure 2 - Share of women occupied with rough labor

It is necessary to note that by now some changes have taken place; particularly, women become active individual farmers. This was revealed at a workshop held within the framework of Climate Change Project.

Gross domestic product (GDP) and per capita income in CAR

Analysis of published materials indicates to wide variation of gross domestic product indicators in Central Asian states during transition period (1990-2000). Therefore, here we give official data collected by statistical agencies (Table IV).

High future GDP growth rates in Turkmenistan and Uzbekistan are also explained by the expectations of probable expansion of irrigated areas and of increase in revenues from oil and gas industries. Actual and predicted per capita income data (*Table IV*) are also taken from the above-mentioned information sources.

Table IV – Actual and predicted per capita incomes (\$US)

Year	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
1990	2100	1975	1050	1559	2000
1995	1063	326	112	447	454
2000	1230	285	168	900	557
2010	1887	795	430	2605	1100
2020	2359	1210	691	5490	1745

By 2020, according to the World Bank's estimations, the highest income will be achieved in Turkmenistan (5490 \$/capita) and Kazakhstan (2359 \$/capita), and much lesser incomes are forecasted for Kyrgyzstan (1210 \$/capita) and Tajikistan (691 \$/capita).

Water resources

At present, regional water resources formed in the main river basins Syrdarya and Amudarya are estimated as 116,5 km³/year, major portion of which is used for irrigation. Given the total irrigated area of about 8 Mha, water availability per 1 ha is about 12 thousand m³/ha, without taking into consideration losses in irrigation canals.

Unit water use in Central Asian states is shown in *Table V*.

Table V – Unit water use in CAR

Country	Unit water use per capita/year (m ³)	Unit water use for irrigation/year (m ³ /ha)	Water use per unit crop yield (th.m ³ /t)
Kazakhstan	1943	11350	1,22
Kyrgyzstan	1371	10120	2,41
Tajikistan	1843	13580	6,17
Turkmenistan	4044	12370	2,37
Uzbekistan	2596	12380	1,35
Total in the basin	2524	11870	2,32

Major water consumer all over the world is agriculture. It is followed, with large gap, by water accumulation in reservoirs, next by industry and the last water consumer is household sector.

Table VI below shows dynamics of water use in the Aral Sea basin since 1960. In the region as a whole,

irrigated agriculture consumes more than 90% of total water withdrawal.

Table VI - Dynamics of water use in the Aral Sea basin (Mm³)

	1960		1970		1980		1990		1995		1999	
	Total	Irrigation	Total	Irrigation	Total	Irrigation	Total	Irrigation	Total	Irrigation	Total	Irrigation
Total for the Aral Sea basin	60610	56152	94560	86837	120690	106790	116271	106404	105805	96720	104955	94657
of which Amudarya	30970	28550	53220	49282	66950	60345	69247	65151	64392	60700	66079	59568
Syrdarya	29640	27602	41340	37555	53740	46445	47024	41253	41413	36020	38876	35089

As the data show, in 1960, the total water withdrawal in the Aral Sea basin was 60,61 km³, while by 1990 it increased to 116,271 km³ or 1.8 times. During the same period of time, the population increased 2.7 times, irrigated area expanded 1.7 times, and agricultural production grew up threefold. Since 1994, there have been observed clear tendency to reduction of water consumption and withdrawal. In 1999, the total water withdrawal was 11.4 km³ less than in 1990 and amounted to 104,955 km³. Data in all national diagnostic reports confirm the general water use tendencies during 1960 – 2000. Irrigated land use patterns have changed as well – cotton areas decreased, while grain and vegetable areas increased. Situation regarding water resources in CAR becomes more critical and water is giving causes for interstate conflicts.

Agriculture

Irrigated area in Central Asian states

By 1999, the total area of developed irrigated lands had amounted to about 8,0 Mha; however, the area of actually irrigated lands varies from year to year depending on water availability. Irrigated land distribution over the Aral Sea basin and dynamics in expansion of irrigated area over 1990-2000 are shown in *Table VII*. The data show that more than 50 % of irrigated lands are located in Uzbekistan. Relatively slight increase in irrigated area is predicted for Kazakhstan, Kyrgyzstan, and Tajikistan. However, in countries with the largest irrigated areas, i.e. in Turkmenistan and Uzbekistan the irrigated area is expected to increase considerably by 2025. Experts believe that such great expansion in irrigated lands may take place only under ideal financing conditions.

Table VII – Actual and predicted irrigated areas in the Aral Sea basin (thousand ha)

Year	Southern Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Total
1990	782	410	706	1329	4222	7449
1995	786	416	719	1736	4298	7955
2000	786	415	719	1714	4259	8101
2010	806	434	1064	2240	4355	8899
2025	815	471	1188	2778	6441	11693

Source: GEF Project (2001).

In context of the above-mentioned, one should suppose that as new irrigated lands are developed, more labor will be required and, naturally, this is impossible without use of women's work. Therefore, probably, situation related to involvement of women in rough labor will hardly change to the better.

Cropping patterns in irrigated lands

The main crop grown in five Central Asian states is cotton.

In 1990, cotton occupied 40 % of irrigated lands. In 2000, 35 % of irrigated area was used for cotton and, at present, cotton remains the main crop in most Central Asian states. During last decade, wheat areas have expanded substantially. This, first of all, relates to Uzbekistan and Turkmenistan, where more than 70% of total irrigated lands is located.

The expansion of wheat areas was the result of grain-independence policy adopted in most republics. Under present economic conditions, wheat is much less profitable crop from economic point of view than, for instance cotton. Therefore, the grain-independence policy has led to substantial economic losses in farms and in the republics as a whole. Since political independence, the total livestock population has been reduced by 50 %, with accompanying reduction of forage production in Kyrgyzstan, Turkmenistan, and Uzbekistan.

As to involvement of women in production of grains and cotton, the former perform harder work. Weeding and manual harvesting of cotton fall on women and children. This applies both to Uzbekistan and to Southern Kazakhstan and Kyrgyzstan, i.e. countries with actively developing market relations, where cotton growing prevails and machine harvesting is practically excluded.

Costs and profits

Central Asian states have different agricultural production systems and price policies that are the basis of producer's income-formation.

Figure 3 illustrates changes in gross margin, \$/ha, in monitoring farms of WUFMAS Project. In 1998, with landslide of cotton prices, gross margins decreased in all the republics. Wide variation in gross margin values may be explained by different approaches to implementation of reforms in CAR.

Thus, in Kazakhstan agricultural restructurization affected all state farms. Land and material resources were privatized. As a result, now, there is no government control over production. Products are sold at free prices through exchange and gins. In Kyrgyzstan land was distributed between all persons living in collective farms and state farms and leased for long-term. Agricultural products are sold through markets.

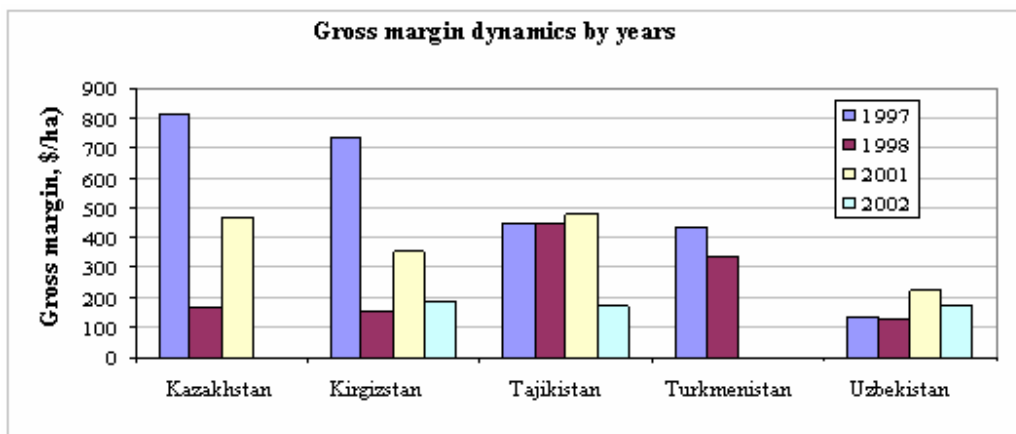


Figure 3 – Gross margin from cotton in CAR

Agricultural production system cannot be considered as market economy in full in Tajikistan. The republic retains the state order for production and, to a larger extent, the government controls cropping patterns. According to monitoring data, crop yields and gross margin of crop production is 1.5-2 times higher in private farms than those in state farms. Water is also substantially subsidized by the government.

In Turkmenistan agricultural production is based on diykhan (peasant) associations that are established on the basis on former collective and state farms. Purchasing prices were set by the government for cotton, wheat, and sugar beet. Other agricultural products are sold at free prices at internal markets. Uzbekistan's government sets plan for sale at fixed prices for such crops as cotton, wheat, and rice. Other agricultural products are sold through markets. Above-plan cotton output may be sold at free prices through gin houses.

The diagram shows that in Kazakhstan and Kyrgyzstan, where crops are sold at free prices, profit is 817 \$/ha and 737 \$/ha, i.e. 59% and 43%, respectively higher than the average for the region. Due to state order for cotton and price regulation, gross margin averaged 137 \$/ha in Uzbekistan, that was 73% lower than the average for the region. In Turkmenistan, where the government directly subsidizes production in an amount of 50% of the cost, production costs are lower than in other republics. As a

result, whereas the raw cotton purchasing prices were close to those in Uzbekistan, gross margin was 437 \$/ha, i.e. only 15 % lower than the average for the region.

As was mentioned above, in the republics that retained the state order for agricultural products the obtained profit from agricultural production was lower than in the republics with market economy. A farmer in Uzbekistan and Tajikistan has to input proceeds into production so that to ensure crop yield next year. The received profit is not enough to meet production and household needs. Priority is always given to production. Thus, naturally, this affects family budget. Foodstuff cannot be bought in required amounts, as well as any devices that lighten housekeeping done by women in large farmer's family.

POVERTY, GENDER

Poverty is an issue of the day for rural population in Central Asian states. There is no common clearly marked poverty line. The World Bank for international comparisons set a poverty line at 1 US\$ per person (purchasing power parity, PPP, in US\$ in prices of the year 1985). This poverty line is based on the level of consumption. For Eastern Europe and CIS the poverty line is estimated to be 4 US\$ (PPP in US\$ in prices of the year 1990).

The capital intensive and labor-saving character of development which all Central Asian republics have to follow does not agree with their base demographic and economic characteristics. Agricultural production and food markets in CAR are not self-regulated and all-sufficient under present conditions and cannot function well without continuous government intervention and subsidies. Usually, the sizes of the latter are quite large, for instance, in USA the total transfers to agriculture (including, price increase due to government regulation) are 94 billion dollars, of which 77 billion dollars are direct budgetary provisions. These subsidies amount to 89 billion dollars and 26 billion dollars, respectively, in Japan and 134 billion dollars and 60 billion dollars in European Union. Even such small country as Finland subsidizes agriculture in an amount of 3,9 billion dollars, while in Norway, with small-scale agriculture, these subsidies amount to 3,4 billion dollars.

Thus, it follows from the above-mentioned and many other similar factors that large-scale government subsidies are needed to implement agricultural policies using market incentives.

Poverty gradation

Below are shown the data from the World Bank's report 2003 and comments on poverty problem in Central Asia.

The percentage of population which is below the low-income poverty threshold widely varies by countries. For instance, 71 % of rural population is poor in Tajikistan, whereas in Turkmenistan percentage of the rural poor is only 10 %. The difference in the quantitative poverty indicator is partially a result of applying different approaches to determination of variable reflecting standard of well-being (consumption spending per capita). However, even after appropriate adjustment of the standard of well-being and consideration of the differences in prices the indicator slightly changed (*Table VIII*).

Table VIII – Distribution of population according to well-being (%)

Republic, oblast	Degree of poverty (% of local population)		Percentage of the poor (% of all poor)	
	urban	rural	urban	rural
Tajikistan	63	71	20	80
Kyrgyzstan	57	54	17	83
Turkmenistan	3	10	17	83
Fergana oblast	11	25	12	88

Source: WB's estimations

Poverty and education

The financial crisis in Central Asian region that took place after the collapse of USSR have led to considerable cut in government financing of social programs, including public health and education, and provision of the necessities of life, such as housing, heating, and drinking water supply. Education, public health and many other services have been decentralized up to a level of oblasts and rayons where resources for these services are limited, particularly under conditions of growing costs. Quantity and quality of those services have dropped. In particular, education is essential for development of rural area, for ability to function under market conditions, and most important for industrial development in rural area. According to World Bank’s estimations, percentage of non-poor families where the head of family has education above the secondary is higher than percentage of poor families where head of family has similar education (*Table IX*).

Table IX - Characteristics of non-poor and poor farmers’ families

Central Asian states	Head of family has education above the secondary	
	Non-poor, %	Poor, %
Tajikistan	18	12
Kyrgyzstan	15	5
Turkmenistan	14	8
Fergana Valey	13	8

Poverty and population growth

Social life becomes more stressed due to rapid growth of population, limited opportunities for employment, and very low incomes from labor activities.

The demographic processes being the main factor of gender relations have an impact

on status of women in families, their health, opportunity to go to school and continue education, employment, and incomes. Since 60% of population in the region lives in rural area and is occupied with agriculture, their way of living, values, traditions and customs have effect on development of gender relations. Among the main factors is historical and national tradition of having large families in rural area. The average birth rate in CAR’s Russian families is 2 children, while this rate in families of the aboriginal population is 4-5 children. Characteristics of agricultural labor assume involvement of a lot of people. This may, to a great extent, have an influence on decision to have large family. However, until children grow up and become able to take part in agricultural production, they are the additional factor of family poverty (*Table X*). Disabled elderly members of family have the same impact.

Childbirth aspects of women’s life also affect their opportunities to become educated. 290-295 of 1000 infants are born by women of 20-24 years old. This makes it difficult for the latter to continue education and be employed, and women become busy with housekeeping and child-care. Demographic and socio-economic peculiarities in rural area do not allow parents to create conditions for their children to become educated.

Table X - Characteristics of non-poor and poor farmers’ families

Central Asian states	Family size	
	Non-poor	Poor
Tajikistan	6,8	7,9
Kyrgyzstan	4,6	5,8
Turkmenistan	6,2	7,8
Fergana Valley	6,4	6,3

Poverty, costs, profit

Very complex multidimensional conditions are observed in rural area. Most private farms, evidently, have additional sources of income and almost all households get greater part of food from homestead land.

The World Bank's experts have presented very interesting information on rural households, where the heads of families are occupied in agriculture (*Table XI*). The percentage of the poor in such households is higher than the percentage of non-poor in three Central Asian republics.

Table XI - Characteristics of non-poor and poor farmers' families

Central Asian states	Heads of families occupied mainly in agriculture, %	
	Non-poor	Poor
Tajikistan	49	59
Kyrgyzstan	-	-
Turkmenistan	52	71
Fergana Valley	54	60

Studies showed that changes in social life particularly affected women's interests. Central Asian states are patriarchal societies, and it is evident that in families,

men have some superiority over women, particularly, in part of medical care and education. Unemployment and occupation with casual work is another pressing problem in rural areas. High rate of population growth is accompanied by lack of workplaces, as well as by load on other resources. Unemployment relieves are not enough for living.

The regional statistics has small amount of data and is not always a reliable source of information on this issue. Nevertheless, it is estimated that huge mass of rural people lives in deep poverty. The government of Kyrgyzstan (AKIpress, № 15, 2002), for instance, officially recognizes that «poverty level is higher in rural area than in the republic as a whole and amounted to 71 % in 2000 as compared to 59 % in 1996» (Low-income poverty threshold, which is set at 13 US\$/month is much less than the living wage required to maintain physiological needs. According to official figures of the living wage, all rural population, probably except for 5 %, falls to a category of the poor).

Poverty and migration

Studies prove that poverty is mainly rural. According to polls of rural people living in all given areas, 70-90 % of population is poor, 5-25 % earns «average» livelihood, and 2-10 % is «rich». Sometimes, minority of the poor was characterized as «extremely poor». Moreover, the poor believe that poverty is increasing in rural area. Citizens in all studied areas noted that their scale of living became much worse than before, particularly over last two-three years.

Poverty is the main cause of migration. As a whole, we observe outflow of population from all Central Asian states to other CIS countries (mainly, to Russia). This is caused by many factors, among which better economic conditions for living are dominant. There is seasonal migration (primarily from rural areas) in search for a job to richer zones in CIS. People also migrate within the Central Asian region. They try to leave adverse places and settle down in cities where the poverty level is slightly lower. Under such conditions, women are more unprotected and vulnerable since by centuries-old traditions they depend, to a greater extent, on men (husbands). It should be noted that this happens against increasing poverty.

Poverty and women

In many developing countries, including CAR, women in agriculture form the basis of food production, family feeding and livelihood, and, therefore, issues related to women's health, education, and employment are one of key factors of agricultural development.

In reproductive field, i.e. childbirth, upbringing, child care, and house mastering, woman has a great responsibility. In low-income families, woman spends more time for her family. Women spend 70% of their time for reproductive, i.e. non-paid field.

Women can spend only 30% of their time for paid work. In many cases, women's work is neglected and poorly-paid.

Lately, «female sector» has abruptly emerged in Uzbekistan’s economy. Many women have to go in search of a job to neighboring republics, and at the same time they are not acquainted at all with regulations and laws of these republics. Many women were forced by circumstances since early in life their parents did not gave them opportunities to acquire some skills so that to earn their livelihoods and were based on the stereotype that «a man must earn family’s living, and it is not necessary for a women to learn». Due to lack of livelihood, women have to offer their unskilled labor in neighboring countries and work as day-laborers at weeding and harvesting. This often leads to dramatic consequences, such as poor health and mental disorders.

SURVEY RESULTS OF REPRESENTATIVE HOUSEHOLDS IN UZBEKISTAN, KAZAKHSTAN AND TAJIKISTAN, TITLED AS “GENDER ASPECTS RELATING TO ACCESS TO AND MANAGEMENT OF WATER RESOURCES»

The survey aimed at identifying topical farm problems related to different realms, including health, education, culture, access to resources, employment, livelihoods, etc. was conducted in farms in Uzbekistan, Kazakhstan and Tajikistan. Gender issues regarding access to and management of water resources were analyzed. Water and agricultural sectors show visible gender inequality as concerns land use rights, access to water, sharing responsibilities, control over resources, access to decision-making in agricultural water management and to market and services.

Another important objective of given study was to collect reliable information on basic gender inequalities. The survey was conducted in three rayons in the republics, where demonstration project fields were located. 50 rural families, including farmers in Kazakhstan, land tenants in Uzbekistan, and collective farmers in Tajikistan were surveyed.

Socio-economic conditions

Study showed that the average farm (household) size (including house, sheds, cow-houses or sheep-fold) is 4 hundred parts of hectare in all three republics. Uzbek and Tajik farmers maintain orchards and vineyards in their homestead land, while Kazakh farmers plant quite large vegetable gardens bringing in weighty return for family budget. At the same time, areas under vegetable gardens are quite small in Uzbekistan and Tajikistan.

Farmers lease land, where they grow cotton and wheat. In Kazakhstan, farmers take land for long leasing, with succession right, and grow mainly cotton. In Tajikistan, peasants that mainly work in collective farms were questioned, therefore a share of industrial crop area was so small.

Thus, the average area, from which the average farm family can earn real income is about 11,24 ha in Uzbekistan, 3,37 ha in Kazakhstan and 0,98 ha in Tajikistan. This figure per family member, including homestead land is shown in *Figure 4*.

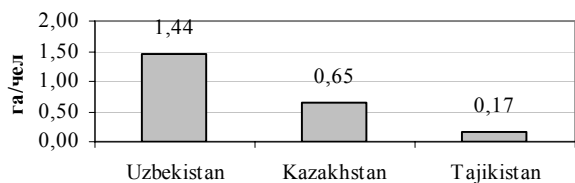


Figure 4 – Area per person

As to prior right to possess and use land, one can say that mostly it is in men’s hands, moreover they mainly busy with leveling, tillage and irrigation, while women are occupied with seeding and weeding. Usually all family members take part in harvesting. Sometimes farmers hire laborers during harvesting, usually their relatives. Men are mainly busy with wholesale, while women are busy with small-scale wholesale and

retail sale. This is not the case in Tajikistan because of the above-mentioned causes.

Demography

Demographic situation in studied farms does not reflect in full political and social conditions created in Central Asian countries in last 15-20 years. Despite low family income, birth rate is quite high due to national traditions and religious principles of oriental population.

Average age of those who enter into a marriage is 18-20 years for women and 20-25 years for men. This shows that people start a family quite early, when husband and wife are not enough socially and economically sufficient and know nothing about family planning.

As to migration, historically, there is low mobility of local population due to way of life, way of housekeeping.

Besides most people deal with agricultural production and thus bound to their farms. Now, however, due to

complex economic situation, many women have to work as casual labors for more prosperous farmers. comparatively low daily wage – from 800 to 1500 sums for 10-hour work. In Uzbekistan, women living in areas bordering Kazakhstan are seasonally employed in the neighboring republic, thus increasing their family budget.

There is high percentage of disabled members (children and the old), who do not contribute to family budget or have quite low welfare payments in form of pensions (*Figure 5*).

Traditionally, 68 % of men consider themselves as authoritative head of family and only 32 % recognize equal rights for women in their families. Women themselves play a role of subordinate members in 40 % of surveyed families. Leading role is mainly played by single women, who are actually the heads of their families.

Economics

The survey showed that in all three republics the primary sources of farm income are:

- labor activity in principal place of business or journey-work of one or all able-bodied family members.
- personal subsidiary plots and lawn-and-garden plots (taking into account consumption)
- government support allocated according to affiliation with social groups in form of pensions, allowances and grants (dependency allowances and grants, pensions, income tested transfers)
- secondary occupation (some families have additional job, which is often casual, seasonal or day-work).

Earnings in one rural family budget are shown in *Figure 6*.

Earnings in family budget differ among the republics. In Uzbekistan, income from principal place of business is 58,05 % of all earnings, while personal subsidiary plots (i.e. orchard, vegetable garden, livestock and chicken breeding) bring additional 19,06 % of income. Almost the same income (18,9 %) comes from pension of old members, and secondary occupation accounts for minor share of 3,96 % in the budget. Many Uzbek farmers mentioned that output from subsidiary plot is, as a rule, consumed by family, excluding fruits, particularly grape, which is sold to earn income. Livestock reared by farmers also brings casual income. Such goods as milk, wool, etc. are mainly used by family.

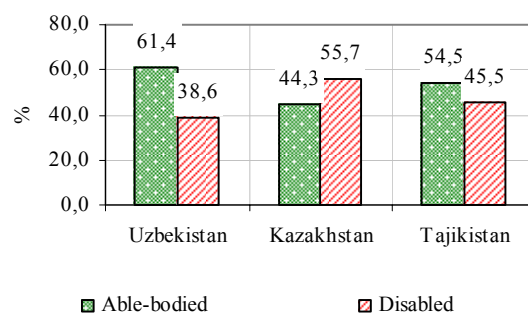


Figure 5 – Able-bodied and disabled family members

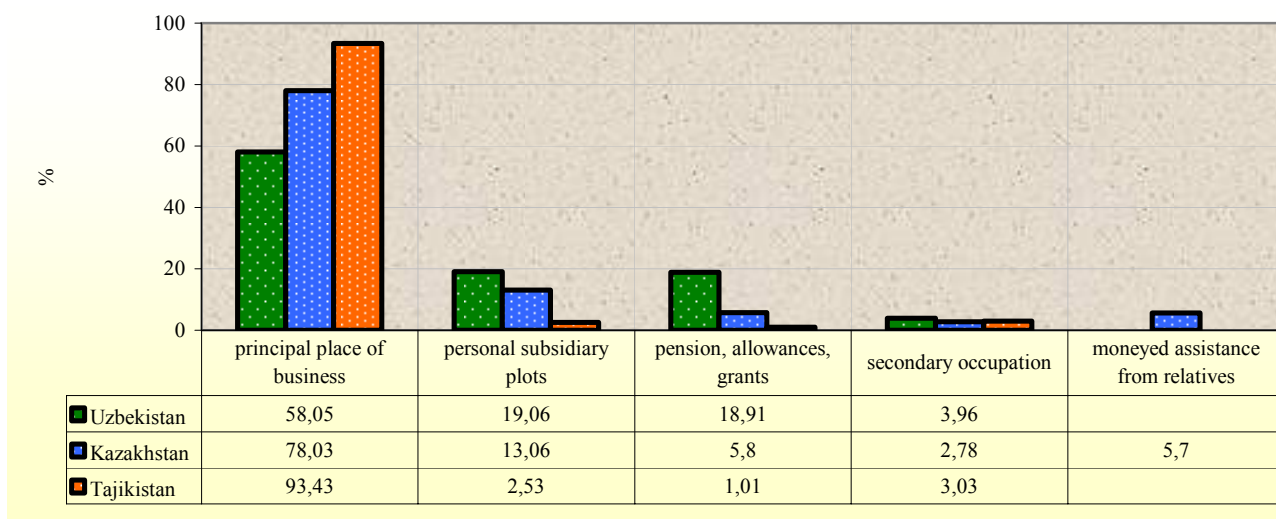


Figure 6 - Monthly earnings in rural family

In Kazakhstan, the largest share (78,03) in family budget is income from farm fields. Many families receive child support and very small pensions. Income from secondary occupation is low. In Tajikistan, where the principal place of business for peasants is a collective farm, the main source of income (93,43%) is salary paid by the government. Other earnings are too small. Rural women's contribution to family budget shown in Figure 7 is 15-29 %.

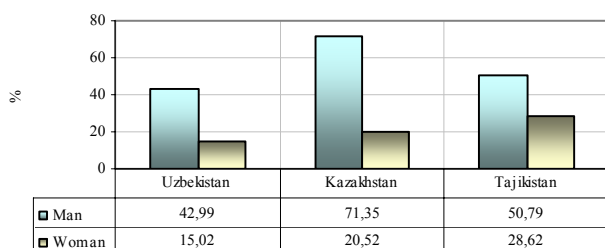


Figure 7 – Woman's contribution. in family budget

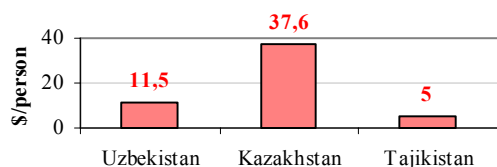


Figure 8 – Income per person (US\$)

As a whole, fewer rural women have steady earnings. Among those are women occupied in government organizations, service sector, health service, and education. These women have the same earnings as men working in similar areas. Women occupied in agriculture, i.e. those who work in shirkat farms or farm enterprises have very small income.

As to men's and women's contributions to family income, it must be noted that 33% of men in Uzbekistan, 25 % in Kazakhstan and only 2% in Tajikistan does not consider housekeeping done by woman as her contribution to general family budget. In order to have clear picture of earnings in all the republics with their own currency, we showed all income indicators in US\$ (Figure 8).

The Figure shows that the highest income per person is in Kazakh rural families, while the lowest one is in Tajikistan. One should note that in Kazakhstan salary is 30 % higher than the national living wage.

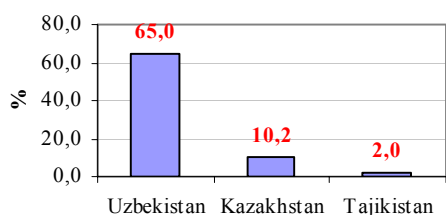


Figure 9 - Satisfaction with budget

Very interesting fact was established during questioning. In Kazakhstan, where family earnings exceed the living wage, only 10,2 % of farmers are satisfied with their incomes. 65 % of respondents are satisfied with family income in Uzbekistan; and, 2% of respondents, in Tajikistan (Figure 9).

Composition of rural family expenditure is shown below (Figure 10).

The data on farmer expenditures in Uzbekistan and Tajikistan show that farmers spend most of their income for food (67,1 and 71,1 %, respectively). As to Kazakh farmers, the survey showed that their food expenditures are only 27%. Household, non-food and other expenses are 5 times and more less than food expenses in the republics, except for Kazakhstan, where household expenses are almost equal to food expenses.

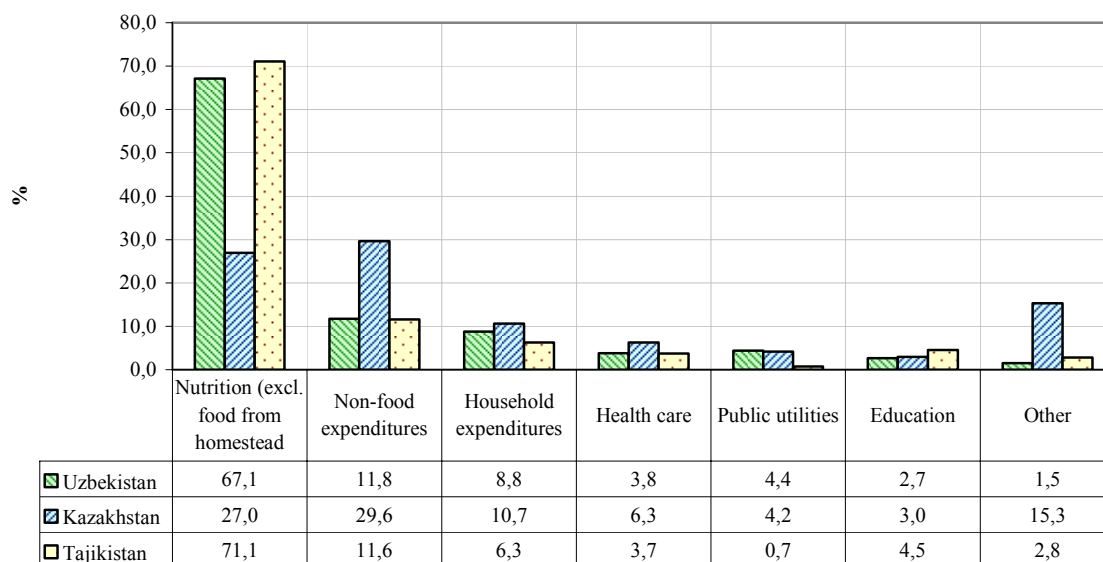


Figure 10 - Composition of average rural family expenditure

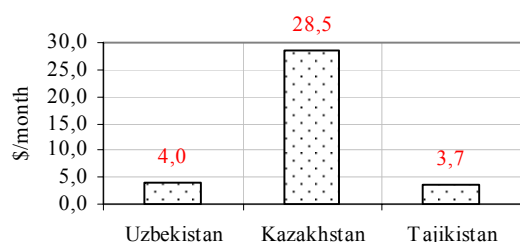


Figure 11 – Women’s expenses for personal needs

Women monthly expenses for their personal needs, including for personal hygiene products (Figure 11) average 4 \$ in Uzbekistan, 28,5 \$ in Kazakhstan and 3,7 \$ in Tajikistan. This is very minor amount, except for Kazakhstan.

Most families in Uzbekistan, Kazakhstan and Tajikistan keep patriarchal way of life and final decision on expenditure items in family budget is made by man as the head of family.

The survey showed that rural family’s consumption pattern (Figure 12) includes mainly such foodstuffs as flour, pasta, potato, cereals (mainly rice), cotton oil, sugar and tea. Vegetables and fruits, meat and eggs, and dairy products are much less consumed despite the fact that they are produced in household plots. This is not the case in Kazakhstan, where consumption of dairy products and eggs is quite high.

The diagram shows that the diet of rural families is principally comprised of carbohydrate and obviously lacks protein and fat.

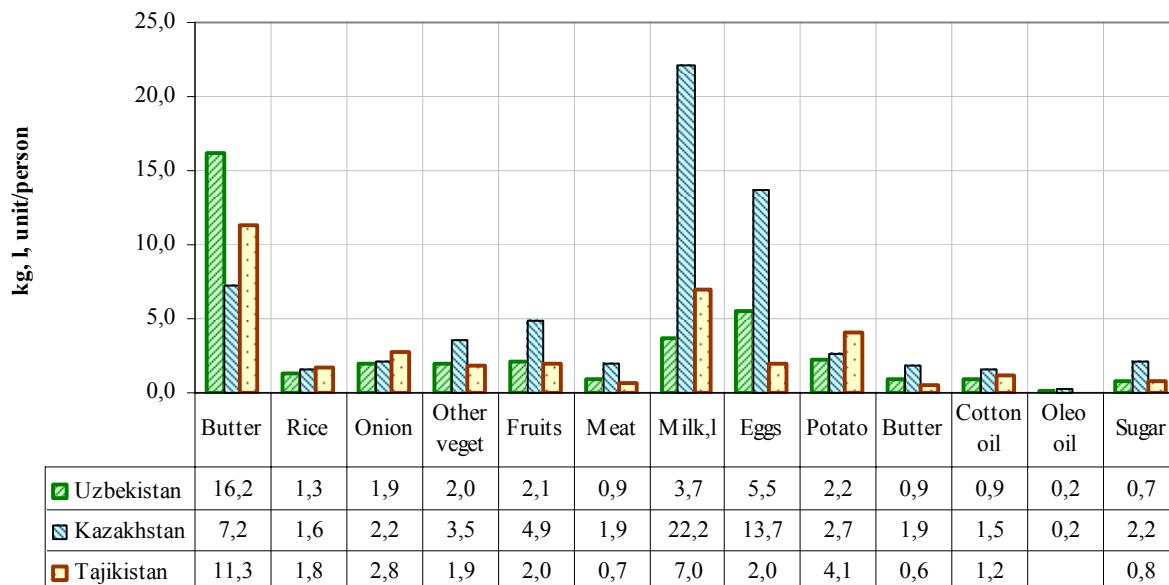
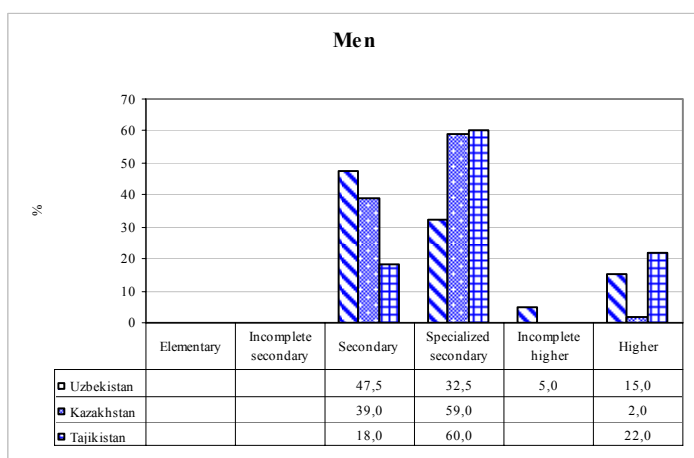


Figure 12 – Monthly food consumption pattern per person

Education and culture

The standard of education of farmers and their wives is relatively high. This indicates that farmers are enough educated people (Figure 13) but they do not always have special agricultural education. Therefore, often some farmers do not have both theoretical and practical experience in farming. Besides, critical conditions of work and family life, existing state orders that, in farmers’ opinion, are overestimated due to incorrect (outdated) estimation of soil fertility class and other external factors force some farmers to abandon their farms.

Despite available cultural institutions – club-houses, recreation centers – many respondents have very limited opportunities for amenities. As was mentioned above, most residents prefer to watch TV. It should be noted that 95 % of men and 85 % of women consider newspaper reading as necessary attribute of their spare time.



Judging by answers of men and women, one may conclude that level of understanding of gender issues is low – first of all, this relates to general subsidiary and dependent position of women in families. More than half of woman-respondents think that participation in public life is not women’s business. They stressed that motherhood, family, children care, and elderly problems are the main spheres of women’s public activity.

Nevertheless, it should be noted that most respondents, both women and men, understand a need to improve the role of rural women in decision-making on daily social problems, especially on such issues as development of social rural infrastructure.

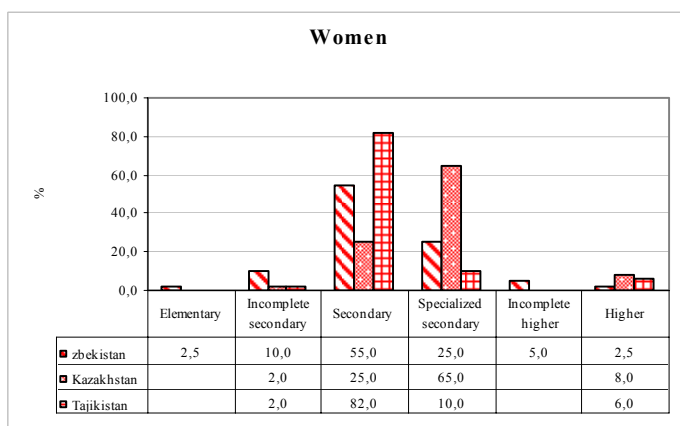


Figure 13 – Educational standard

traditions and stereotypes, as well as due to woman’s low competitive ability as a labor force in labor-market. If consider objectively, the opportunities increase but, from personal point of view, those cause difficulties both for women and men. At present, there is an increasing tendency in society to patriarchy: woman should play traditional roles as wife, mother, and housewife. Hence, we have double thinking of rural population as concerns gender problems and woman’s status as a whole. In men’s opinion, woman’s status in the family is subordinate rather than equal, letting alone leading position.

Water use

Water supply services for household and drinking needs of population, for institutions and enterprises are provided by rayon organization “Suvokava” (former rayon water supply organization) in Uzbekistan and by WUAs in Kazakhstan and Tajikistan, besides, most drainage and artesian wells belong to local shirkat farms. Irrigation water distribution in main canals is under responsibility of rayon irrigation system authority, while on-farm water distribution is provided by land-reclamation services (irrigators) of shirkats. The respondents told that water supply services were always accessible, and available water supply systems ensure undisturbed operation. Types of household water supply in farm enterprises and peasant farms are shown in Figure 14.

Distance from houses to water pumps ranges from 10 to 500 m. Residents, who do not have running

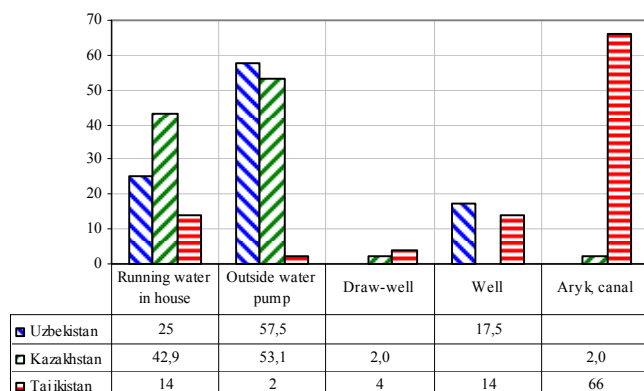


Figure 14 – Types of household water supply, %

water in their houses, get drinking water outside by using bicycles for its transportation, while some women and children carry water using small carts. As women tell, this takes from 10 minutes to 1 hour every day.

Most population stores water in aluminum 50-liter churns, buckets and other suitable vessels. The survey shows that distribution, control and regulation of water for drinking and household needs is mainly performed by women. The process of water transportation and storage does not meet sanitary conditions. Women use water mainly for household needs (washing, washing up, cleaning, and cooking), while

men use water primarily for irrigation, which is seasonal.

At inter-farm level, irrigation water supply is regulated by rayon irrigation system authority, which distributes water on the basis of assigned water limits. At on-farm level, water is distributed by land-reclamation services that deliver water to fields upon requests of agronomists. As farmers told, there were conflicts between some of them in summer season. First, this relates to location of farm's fields – at the head or at the tail of irrigation ditch.

Practically, all farmer-respondents and their families agreed that currently it is necessary to apply water conservation technologies both in household and in irrigation spheres. However, no one could explain clearly what such water conservation would consist in. Moreover, farmers were interested in those aspects that would give realistic benefit in terms of reduced expenditures related with water charges.

Access to land possession, management, and limitations of rural women

Conducted analysis demonstrated that women's limitations in rural families become apparent mainly through economic dependency on their husbands. As was mentioned above, 75 % of women in Uzbekistan and Tajikistan have no right to command family budget independently, and, despite their 20% contribution to the budget, they cannot spend their earnings on their own. Access to land was granted to 10% of women who established farms.

90 % of respondents think that only man

- allocates lots for vegetable gardens
- has access to agricultural machinery
- has access to market
- has priority in obtaining a credit
- has land and water use rights
- makes decisions on cropping patterns in farm
- has real access to production distribution
- sells agricultural output.

Women's limitations become apparent in increase of non-market work in homestead plots, besides poor level of public utilities has negative effect on women by increasing load on them. Extensive involvement of women in farm work in shirkat farms is of seasonal nature; moreover, they deal with more laborious and low-paid kinds of work.

Most women are occupied with small-scale retailing, which lacks access to a system of crediting, transport, and infrastructure. We have already said that wholesale, in most cases, is prerogative of men, while women sell pedlary. This is very labor-intensive work that does not bear tangible fruits in respect to development of own business and meets only minor family needs.

More and more increasing revival of early marriage tradition and loss of education prestige have caused that a share of rural girl-students in institutes of higher education and colleges has decreased. Besides, it is necessary to note that the load of care for children and elderly family members falls on women. This does not give opportunities and time for self-actualization and self-improvement of women.

CONCLUSION

From the conducted survey we may conclude, in general, that the problems of rural women, their access to water, land use, financial and physical resources, education and culture are very critical and we can hold that most rural women have certain limitations in realization of available opportunities.

The study showed that gender roles in rural family are being changed. Severe financial situation in families force women to do hard low-paid day-work for more prosperous farmers. This has great

impact on social instability and imbalance within rural families. Women's conditions are aggravated by high pressure of domestic unpaid labor, as well as by traditional possession of many children. More and more rural women take part in agricultural production for family needs and do not have enough time for constructive social labor.