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Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan

Nozilakhon Mukhamedova and Kai Wegerich

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Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan

Nozilakhon Mukhamedova and Kai Wegerich

International Water Management Institute (IWMI)
P O Box 2075, Colombo, Sri Lanka

The authors: Nozilakhon Mukhamedova is a Research Officer - Gender Specialist at the International Water Management Institute (IWMI), Tashkent, Uzbekistan; and Kai Wegerich is a Senior Researcher: Water Policy, Institutions and Organizations at IWMI, Addis Ababa, Ethiopia.

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Front cover photograph shows female wageworkers gathering vegetables as members of an organized cooperative labor unit in a *dehkan* farmer's field in Sughd Province, Tajikistan (*photo*: Nozilakhon Mukhamedova).

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Acronyms

IWMI	International Water Management Institute
NGO	Nongovernmental organization
TJS	Tajikistani Somoni (currency of the Republic of Tajikistan)
SSR	Soviet Socialist Republic
WUA	Water user association

Summary

After independence from the Soviet Union, Tajikistan suffered not only from the shock of the suspension of economic support from the Soviet Union but also from a five-year civil war. These political upheavals have increased the importance of the agriculture sector. Since independence Tajikistan has introduced policy changes to the ownership and management of agricultural land. Despite the rising importance of agriculture for the weakened economy, the rural areas have experienced a tremendous out-migration, particularly of men, followed by feminization of poverty, and women taking over most of the agricultural jobs (World Bank 2005; Mirzoeva 2009).

The changing gender composition of the labor force and consequent feminization observed in most of the developing countries have resulted in initiating multiple research studies as well as policy attention. Although, agriculture and land reforms in Tajikistan were already covered to some extend in the scientific literature and international donor reports, so far there has not been a comprehensive account in terms of providing explanations for the rising phenomenon of feminization in agriculture and how changing institutional dimensions meet basic household and specific gender needs. Contributing to the existing literature on basic needs, feminization of agricultural labor and land reforms, this report examines changing patterns of labor relations and women's roles in meeting basic needs for sustaining livelihoods in the context of rural Tajikistan.

Using a case study approach based on qualitative data collection the report shows that agricultural reforms and changing institutional dimensions have increased women's employment opportunities in the agriculture sector. The question remains whether these opportunities and the rising feminization of agriculture are capable of addressing the basic needs of rural households and whether these conditions are mainstreamed within current policies and interventions. The report analyzes the context of agrarian transformations with a detailed case study of farming systems, in the context of socioeconomic changes, institutional reforms and male out-migration in Tajikistan. The specific context has led to changes in labor relations and facilitated the expansion of feminization. Women are not only acquiring new roles but are occupying multiple parallel activities.

The findings from Sughd Province in Tajikistan show that there are positive signs of extended women's intra-household bargaining power as well as evidence of leadership and decision making among females, organized in informal 'cooperative labor units' of wage workers managed by a leader of women. Overall, there is evidence that feminization appears in different types and groupings. Hence, there is an opportunity and also a need for characterizing existing agricultural production modes for better targeting women involved in various agricultural positions and contractual relationships.

Although contractual conditions within collective type farms are more stable, the remuneration is not sufficient for farmers to be solely dependent on it. On the other hand, new private farming has reduced the contractual security; however, it has increased flexibility in taking different jobs and has diversified the income opportunities of women. Hence, households have to depend on more types of agricultural work to secure day-to-day as well as long-term livelihood security. The implication is that women in agriculture might not be adequately targeted in policies or integrated within intervention programs indicating the need to reform the systems of social labor protection. Moreover, it is essential for all the farm structures and agricultural institutions to learn more about the needs of women employed within the agriculture sector and create better incentives for fulfilling the responsibilities related to their jobs and families.

Land Reforms and Feminization of Agricultural Labor in Sughd Province, Tajikistan

Nozilakhon Mukhamedova and Kai Wegerich

Introduction

Women comprise around 43% of the agricultural labor force globally with higher proportions in developing countries and produce over 50% of the food crops (Alimdjanova 2009; FAO 2011). In some cases economic and social transformations have broadened and deepened women's involvement in agricultural production (Lastarria-Cornhiel 2008). The concepts of feminization of poverty (Thibos et al. 2007) and rural feminization take the general concept of feminization into the agriculture sector.

Within the last decade of the Soviet rule the Tajik Soviet Socialist Republic (SSR) has been classified as an agrarian republic, with 43% of her labor force being employed in the agriculture sector (Curtis 1996). During this time agricultural production was organized in crop-specialized large-scale collective farms. Today, the proportion of the labor force in agriculture has increased accounting for 75% of total employment.

Although the first land reforms were initiated in Tajikistan (1992 and 1995) directly after the breakup of the Soviet Union (1991) the civil war (1992-1997) delayed these reforms. It was only in 1998 that land certificates to collective farm members were issued in some collective farms; the new Law "On *Dehkan* Farms" was promulgated in 2002. However, to date the land reforms have not been finalized. The collapse of the collective farm system left the rural population with few employment opportunities beyond poorly paid jobs in agriculture with overall unemployment reaching almost 40% (World Bank 2005). This sparked a labor migration particularly of the male population, annual labor migration reaching approximately 62% from the total capable labor force within Sughd Province, northern Tajikistan (IOM 2012). Land reforms as well as male out-migration have led to a feminization, although not officially recognized, of the agricultural production sector. Since land reforms have not been implemented uniformly, different forms of agricultural labor have emerged including female engagement in informal labor groups and agricultural water management.

Here data are presented from two districts of Sughd Province of Tajikistan. The data were collected through site visits, participant observations, semi-structured, in-depth and focus group interviews with staff, farmers, household members, and community leaders from five formerly collective farms, recently transformed and restructured into new type farms. Altogether, 60 interviews were conducted during 3 weeks in November 2011 and follow-up visits during October and December 2012.

Using a case study approach based on qualitative data collection, the research questions agricultural reforms and changing institutional domains and dimensions within the rural agriculture sector and how these have been facilitating women's employment opportunities. The question is whether these opportunities and rising feminization of agriculture are capable of addressing the basic needs of rural households taking into account implemented reforms and socioeconomic conditions emerging in Tajikistan.

The report continues with a short framework focusing on feminization of poverty and agriculture as well as on a review of the basic needs framework in application to employment. This is followed by a background section providing a short introduction to the research area as well as agricultural production during the time of the Soviet Union dominance, and within the transition period, after the independence of Tajikistan in 1991. The case study section focuses through a gender prism on current farm types, the varying agricultural labor categories (diversification of feminization) and how they are framed within farms and new institutions, such as water user associations (WUAs). This is followed by a section on discussion that provides classification of occupations adapted to positions analyzed in the case study and that considers these against different household needs which are covered according to remuneration of employment categories. The conclusion summarizes the findings and emphasizes the importance of considering the consequences of institutional changes, characterizing existing agricultural production modes and diverse feminization patterns for possible interventions and better targeting women involved in various agricultural positions and contractual relationships.

Framework

Where feminization and categorizations of employment are concerned, the term "feminization of poverty" coined late in the 1970s (Pearce 1978) has broadened the discussion on the gender dimensions of poverty. Primary reasons for the feminization of poverty are intra-household differences due to patriarchal family structures (Kabeer 1991) and unequal allocation of resources (Drèzeand Sen 1989; Agarwal 1992). In light of these discussions, greater constraints were allotted to rural women in obtaining land and water resources, capital, or better-paid jobs, especially in relation to female-headed households (FHHs) with dependent children or elderly family members. In times of recessions the vulnerability increases with poverty hitting more the female than the male population (Quisumbing et al. 2001; Lagerlof 2003). Research covering FHHs has also revealed greater constraints in obtaining resources and services in housing and agriculture for women, reasoning that this has deepened feminization of poverty (Dwyer and Bruce 1988; Sen 1991; Power 1993; Thibos et al. 2007). Also, the broader socioeconomic and political context has been influencing the conditions within the households and has led to a feminization of poverty.

"Feminization of agriculture" is mostly interpreted as a positive term, which highlights women's increased participation and role-taking in agricultural tasks, such as land preparation, planting, harvesting or irrigation, which were traditionally performed by men. Consequently, women are becoming the "de facto heads of farms." However, the increased female participation comes in the form of either self-employed wageworkers or unremunerated family workers (Katz 2002: 33-35; Deere 2005: 17). Nevertheless, the increase of participation permitted a "gradual challenge and erosion of traditional roles" (Taylor et al. 2006: 41) conventionally performed by men within the farm and household levels. The introduction of neoliberal policies and structural adjustment programs has been criticized for having negative effects on social conditions (Cornia et al. 1987). Reforms in countries of economic transition have triggered high rates and long duration of unemployment, while gender disparities in already low wages have increased (The Economist 1995; World Bank 1999). Rising unemployment and reduced wages of men meant increased labor activity

of women especially in cases of out-migration of male labor. The conditions of flexibilization of labor markets (Standing 1989) have also shown strong linkages between migration and feminization expressed through women mitigating the effects of migration and poverty through reproductive activities and their increasing involvement in various agricultural jobs depending on age (Mutersbaugh 2002; Razavi 2003; Mukhamedova and Wegerich 2014). In some cases, this widespread involvement has been related to institutional production patterns and changing agricultural relations (Standing 1990; Collins 1995; Sujaya 2006; Lastarria-Cornhiel 2008) leading women to bear the responsibility for household budgeting and maintenance.

Whether it is appropriate to talk about feminization of agriculture or feminization of poverty depends on the changing institutional dimensions which have met the basic household and specific gender needs. Utilizing the concept of basic needs, based on specific country and sector contexts, could facilitate this debate. The ILO Work Employment Program (ILO 1976) with the focus on basic needs triggered a debate of development priorities encouraging proactive antipoverty policies (Streeten 1984). Within the ILO report (ILO 1976) basic needs were defined in terms of food, clothing, housing, education and public transportation. Employment was seen as a development priority in terms of means for covering needs and as an end basic need itself. Later, the approach of considering the basic needs through employment turned more into a development strategy incorporating economic growth, remunerated employment and accounting of needs. Definitions of core basic needs have led to debates between objective and subjective views as well as technocratic, sociopolitical and interventionist approaches (Rew 1978; Galtung 1978; Streeten and Burki 1978; Hicks and Streeten 1979). In addition, attempts have been made to intervene in the processes of the labor market, meeting issues of access to public needs through formal employment and development of social security systems (Rew 1978). However, these measures have excluded those outside of the formal sector (Ghai 1978; Selwyn 1978). Under the term “occupation” often the distinction is made as to whether employment is found in the formal or informal sector (Chen 1996; Berger and Buvinic 1988; Standing 1999; Chen et al. 1999). Standing (1999) characterizes formal as secure and informal as flexible employment. For him, secure has three components: a constant or predictable work contract and wage as well as a pension. On the other hand, the term “flexible” makes reference mainly to the period of employment. Since the distinction between formal and informal or secure and flexible is a distinction between forms and contractual relationships of occupations, it does not provide an answer to whether livelihood security and other basic needs are achieved through the occupation or changing institutional domains and dimensions. Therefore, it might likely be that there could be overlaps between these different categories. In addition, the broader distinction appears to lose nuances within individual categories. Furthermore, the distinction between the categories does not take into consideration historic developments or even localized specifics which change the occupation from formal to informal or from secure to flexible.

Going back to Maslow’s (1943) hierarchy of five needs (from physiological to self-actualization) and transferring them into the dynamic households’ basic needs development perspective, one can draw day-to-day, mid-term and long-term needs. Basic units such as gender or household types of these needs can give more specificity into this formulation. When considering the means of achieving the basic needs there are issues including provision or availability of means. Identifying the means for basic needs, classifying them according to sources of income and matching them against categorized basic needs could present an assessment of advantages and disadvantages of these existing institutional and social dimensions.

In our case, within the agriculture sector, taking a rural household as a unit for identifying basic needs and a female as a subunit requires specificity to certain gender needs. The threefold conceptualization of gender interests

translated into prioritized concerns constitutes *women's (men's) needs, strategic needs and practical needs* (Molyneux 1985). The triple role[1] of women introduced by Moser (1980, 1989) similarly identifies practical and strategic gender needs.

The roles and gender relationships play also a determining factor in the division of labor, and reflect differences within allocation of work, distribution of income, wealth and resources. For example, although women have been performing labor-intensive tasks equal to men's whether in agriculture, irrigation or industry (Standing 1999; Ahearn and Tempelman 2010) men often continued to predominate in the ownership and control over resources, as well as in the ownership of farms and production management (Delgado and Zwarteveen 2007; Lastarria-Cornhiel 2008; Zwarteveen 2008). Changing roles and feminization of agriculture discussed earlier bring back the arguments of gender equality in remuneration, recognized contribution to the family and communities, access to land and water resources (FAO 2005) and to the degrees of participation and leadership. So far, these changing roles and labor positions taken by women have not been institutionalized properly within communities (Yakubov 2013; Mukhamedova and Wegerich 2014). At the same time, they indicate the complexities of identifying what the changing basic needs are and how they are attempted to be met.

Methodology

Research was conducted within the Khodjabakirgan Sai Basin in Sughd Province, Tajikistan. The methodological tools used were qualitative data collection, including semi-structured in-depth and focus group interviews and discussions. Interviewers covered a wide spectrum consisting of household members, farmers and their workers, community leaders and WUA staff. The topics addressed during the interviews covered consequences of land reforms, socioeconomic, technical and organizational aspects of water resources management and allocation as well as the role of women in agriculture and irrigation. Altogether 60 semi-structured and in-depth interviews were conducted in two districts of Sughd Province of Tajikistan during 3 weeks in November 2011 and follow-up visits during October and December 2012 (Table 1).

Interviews were conducted within different cooperative farms as well as in private *dehkan* farms[2] and WUAs. These are: Jabbor Rasulov Collective Enterprise (CE), Rahmon Nabiev Research and Production Association (Association), Gulakandoz WUA, Obi Ravoni Ovchi Kalacha WUA and Kotma WUA. Results of interviews were transcribed and analyzed for specific agricultural employment positions, policy and reform implementation in regard to basic household needs and how they are met by changing institutional dimensions and conditions of feminization of agriculture.

[1] Triple roles of low-income women: *Reproductive, productive and community-managing* activities.

[2] *Dehkan* farms are mid-sized peasant farms that are legally and physically distinct from household plots. Regulations concerning *dehkan* farms in Tajikistan are laid out in Law No. 48 on *Dehkan* Farms, dating from 2002.

TABLE 1. Categorization of interviewees.

List of interviewees	Total	Female	Male
WUA representatives	7	0	7
Mahalla (community) representatives	12	12	0
Dehkan and collective farm representatives	29	15	14
Seasonal workers	12	10	2
Breakdown	Total no. of interviews/persons	Female	Male
Total interviewed	60	37	23
Gulakandoz WUA	33	19	14
Obi Ravoni Ovchikala WUA	15	10	5
Kotma WUA	1	0	1
Jabbor Rasulov Collective Enterprise	6	4	2
Rahmon Nabiev Research and Production Association	3	2	1

Background

Located in Central Asia, the Republic of Tajikistan occupies a mountainous area with only about 10% of its land suitable for agricultural use. Nevertheless, during the Soviet Union days the Tajik SSR was classified as an agrarian economy, with 43% of its labor force employed in the agriculture sector (1991). With almost 73% of Tajikistan's population residing in rural areas, its agriculture today accounts for almost 75% of total employment and 23% of total Gross Domestic Product (ADB 2010; USAID 2012). According to government data (Decree No. 349 of Republic of Tajikistan, dated 31 August 2004) the total arable land was 720,000 hectares (ha), from which 502,000 ha were irrigated.

The Sughd (former Leninabad) Province (Figure 1) covers about 26,100 km^2, and has a population of about 2.2 million (SIC 2011). The province can be divided into two distinct agroclimatic zones differentiated by topography. The first zone, in the north of the province, is situated in the Ferghana Valley bordering Kyrgyzstan and Uzbekistan. The provincial capital Khudjand is located within this zone. The second zone is situated in the Zeravshan Valley in the south of the province. The province consists of 14 districts, of which 11 are situated within the Ferghana Valley. The proportion of rural population in Sughd Province is 82.5% of the total population (SIC 2011).

Agriculture in the Tajik Ferghana Valley part is heavily dependent on irrigation. The territory is fed by the Syr Darya through lift irrigation, the transboundary Big Ferghana Canal and North Namangan Canal as well as gravity-fed irrigation from Khodjabakirgansai and other smaller rivers. Warm summers and productive land create good conditions for growing cotton, cereals, fruit trees and horticultural crops. The research was conducted within the Khodjabakirgansai Basin, where the water is partly received from the small river, although in the lower parts of the basin water is also lifted from the Syr Darya (Wegerich et al. 2012).

During the Soviet Union period, agricultural production was organized in crop-specialized state-owned large-scale collective farms (*kolkhoz*

and *sovkhoz).*[3] Consequently, in the Tajik SSR, the state owned 99% of agricultural and 96% of arable land (Lerman and Sedic 2008). In 1972, in Leninabad (Sughd) Province there were 81 *kolkhoz* and 32 *sovkhoz* farms which made up 231,000 ha of arable land, 58% of which were irrigated (USSR 1978).

Under this system, all farm workers were state employees receiving a stable income. The collective farm system provided not only fixed employment but also facilitated management and influenced social norms of the rural communities (Abashin 1998). Collective farms had a hierarchical management structures with one main leader (*rais*) and a management team. The agricultural land of the collective farms was divided into larger parcels with one leader (*brigadir*) managing the organization of works of the teams (*brigades)*, the provision and distribution of resources and the agricultural inputs at that level. Although, during the Soviet Union days the majority of women were employed in nonproductive sectors such as healthcare and education not only did they play an important role as simple *kolkhoz* workers but also found occupation at the lower levels of the rural managerial and specialist staff (Stuart 1979). Representation of men and women in collective farms was more or less equal and women were also induced to get involved in political and economic decision-making processes within the collective farm (Mickiewicz 1977).

FIGURE 1. Map of the Sughd Province within Ferghana Valley and Central Asia.

[3] The major difference between the two farms was that the wages of the *kolkhozs* were dependent on the profit made by the farm in accordance with the working days of the worker. In contrast, the workers of the *sovkhozs* received a fixed salary independent of the profits of the state farm, and each member of a household also received an equal amount of potatoes, carrots or other local products. Different programs were initiated to reduce the inequalities between the two state farms and in the second half of the 1970s the loss-making *kolkhozs* were merged into *sovkhozs*.

Although the first land reforms were initiated in Tajikistan (1992) the civil war (1992-1997) delayed agricultural reforms. The 1992 directly after the breakup of the Soviet Union (1991) Law "On *Dehkan* Farms" established the right of every citizen to create a *dehkan* farm (individual, inheritable land shares), and the Law "On Land Reform" stipulated three different organizational forms; however, it also exempted specialized collective farms from restructuring. In 1998, land certificates to collective farm members were issued in some of the collective farms. Most of the newly formed cooperative farms preserved the old Soviet type structure. Workers of former collective farms became members of cooperative farms/enterprises, automatically becoming shareholders (*sahimdors*) who were also entitled to own a share of a plot of land within the former collective farm. However, the given certificates of land did not provide full rights to actually possess the documented land plot, thus, leaving the management and use of land to the farm leader. Finally, it was only after the 2002 Law on "*Dehkan* Farms" that some private farms appeared. However, according to *Tajikistan's State Agency for Surveying, Cartography, and Land Use,* 35% of agricultural land still remains under collective farms and associations and 20% with *dehkan* farms (Lerman and Sedic 2008; FAO 2011). Hence, although according to the law, former farm workers are entitled to withdraw their land share, in reality in the majority of agricultural enterprises this is not practiced. Few women have entered the privatization process of their land rights as heads of farms. Nevertheless, the number of women-headed *dehkan* farms has been steadily on the increase till 2006 (1999: 3.9%; 2004: 6.8%; 2006: 13%) and since then it did not change until 2011 (TAJSTAT 2012). Continued administrative control and interventions in agricultural decision making maintained the state order system for cotton in all farms (KasWagAgriConsulting Worldwide 2008); the cotton-sown areas declined only by 30 to 40% between 1986 and 2006 (Lerman and Sedic 2008: 40). These obstacles have often been viewed as holding up the growth of the agriculture sector (Lerman and Sedic 2008), helping limit implementation of land reforms which are still ongoing in Tajikistan (Table 2).

Institutional reforms also took place within the water sector of the country. Water management and allocation that functioned centrally was altered by transformed institutional arrangements and the appearance of new water users. New water managing institutions – WUAs[4] – appeared, with their territories based on the boundaries of the former collective farms or hydraulic boundaries of the irrigation water supply system. As a result, in the beginning of 2013 there were already 21 WUAs registered within the Sughd Province.[5] Along with farms, using water for agriculture, households extensively use the canal/river water for a whole range of different household uses including subsistence gardening and often for drinking (Yakubov 2013). Rural households have often access to different types of land plots: 1) a kitchen garden close to the house, 2) in some cases, presidential lands (which are not necessarily irrigated land and often further away from the household), 3) if they have been members of a collective farm, then a parcel of land (*sahim*, which is either defined or not defined) or 4) as independent farmland (*dehkan* farm). Today household plots are by far the most productive segment of agriculture, accounting for over 50% of the value of agricultural production on about 12% of arable land (Yakubov 2013).

[4] WUAs are noncommercial and nonprofit organizations, formed by water users (in most cases, farmers only) to manage water resources to deliver water equitably, efficiently and in a timely manner as well as perform irrigation-drainage infrastructural operations (Abdullaev et al. 2009).

[5] Statistics received from Water Resources Management Department, the Sughd Province, in March, 2013.

TABLE 2. Timeline of land reforms with changes in structures and members.

I. Timeline	II. References to legislations concerning land reforms	III. Land reforms and institutions	IV. Participants who appeared in the study area	V. Characteristics of implementation in the study area	VI. Gender-related changes in legislation
1930-1987	n/a	*kolkhozs/ sovkhozs* in Tajik SSR	Rais (leader), *brigadirs* (foremen), members/workers of *kolkhoz*	State-owned collective farms Subsidized by the state State monopoly on cotton crop	
1987-1990	Law "On Leasing in Tajikistan"	*Kolkhoz/sovkhoz* acquire capacity of functioning as lease enterprises	*Kolkhoz/sovkhoz* participants, tenants (individual workers or groups of workers), *hectarchi*	*Kolkhoz/sovkhoz* restructuring started Each member is responsible for performing and getting a certain harvest planned by the *kolkhoz*. Members were given plots within collective farms (2-3 ha of land) to work on.	
1991	Independence of Republic of Tajikistan				
1991-1993	Law No. 544 of the Republic of Tajikistan "On *Dehkan* Farms" Law No. 604 of the Republic of Tajikistan "On the Land Reform"	Division of *kolkhoz/sovkhoz* into restructured *dehkan* farms, lease share enterprises, and agricultural cooperatives. Set the right of every member of a *kolkhoz/sovkhoz* to a property share (*sahim*)	*Rais* (leader), *brigadirs* (foremen), members/workers of *kolkhoz/ sovkhoz*	The restructuring was formalized on paper but was not implemented. Thus, members of farms also were not entitled to land shares.	1991 the Women's and Family Issues Committee of the Government of the Republic of Tajikistan was established. Since 1993 Tajikistan has been a country-member of the Convention on Elimination of All Forms of Discrimination Against Women (CEDAW)
1992-1997	Civil War				
1995	1995 and 1997 Decree No. 342, of the President of the Republic of Tajikistan "On Assignment of 50,000 hectares of Lands for Personal Husbandry of the Citizens" Decree No. 621 "On the Structural Reorganization of *kolkhozs* and *sovkhozs* and Other Agricultural Enterprises"	Presidential decree allocating 50, 000 ha of land to household plots (President's lands). Process of land allocation to *dehkan* farms continued also in 1997. Unprofitable farms reorganized into lease share enterprises. Profitable farms reorganized into collective farms.	Collective enterprises, new *dehkan* farms, President land owners, *sahimdors*. *hectarchi*.	Only crops are allowed to be planted on these lands Lands are allocated from not well-irrigated lands. Land share sizes and locations are not defined. Management of reorganized farms follows the old state order style.	

(Continued)

TABLE 2. Timeline of land reforms with changes in structures and members (Continued).

I. Timeline	II. References to legislations concerning land reforms	III. Land reforms and institutions	IV. Participants who appeared in the study area	V. Characteristics of implementation in the study area	VI. Gender-related changes in legislation
1996	Decree No. 522 of the President of the Republic of Tajikistan "On the Reorganization of the Agricultural Enterprises and Organizations"	Collective and state farms reorganized into new collective farms/corporate forms. Distributing land certificates to all individuals who were members of the *kolkhozs*.	Collective enterprises *dehkan* farms, joint ventures, cooperatives, joint-stock companies, associations. President landowners, *sahimdors*. *hectarchi, mardikors*, farmers renting and tenants, farm *mirobs*	Certification and issuance of land passports have been considered to be ad hoc, rules unclear and sometimes impossible to implement by members of the old *kolkhozs*. Uneven implementation depended possibly on water availability in the area, enforcement of rights by members and also the process directly depends on government authorities. Even though entitled to a *sahim*, the owner of the share in land is not entitled to make cropping or production decisions. Intra-farm- and government-intervened-farm planning dominates. Reforms triggered the need for additional workers for marketable vegetables and crops such as rice, onions, and potatoes. Not all *sahimdor* received land certificates	
1998- 2000	Decree No. 1021 of the President of the RT "About Ensuring the Right to land plots." Resolution No. 244 of the Government of the RT "About Measures for the Implementation of the Decree of the President of the RT 'About Realization of the Right to Land Use'."	Land Use Certificates to be issued. Schedule for numbers of restructured farms over the next year, per region is set			In 1998, the Government of the Republic of Tajikistan approved National Action Plan on Increasing the Female Status and Role for 1998-2005. In 2000, the country ratified the CEDAW Protocol.
2002- ongoing	"On *Dehkan* Farms" April, the new Law "On *Dehkan* Farms" (replacing the 1992 Law)	Creation of following farm types: Individual farms Family farms Collective *dehkan* farms partnerships			Main Directions of the State Policy for Ensuring Equal Rights and Opportunities of Men and Women in the Republic of Tajikistan for 2001-2010, Law "On Reproductive Health and Reproductive Rights (December 2002)," the Poverty Reduction Strategy Paper in the Republic of Tajikistan (June 2002)

Note: n/a = Data not available.

Each new policy created new types of farms and triggered different kinds of contractual relationships, either between former collective farms and their members (*sahimdors* or *hectarchi*)[6] or private farms and seasonal workers (*madikors*).[7]

The collapse of the collective farm system left rural men and women with few employment opportunities beyond poorly paid jobs in agriculture with overall unemployment reaching almost up to 40% (World Bank 2005). This sparked labor migration, particularly of the male population with the annual rate reaching approximately 62% of the total capable labor force within the Sughd Province (IOM 2012). In the past decade, the estimated total number of labor migrants ranged from 500,000 to 600,000 (ILO and IOM 2009; IOM 2010). Average remittances received by Tajik households accounted for 10 to 12% of total household income (Falkingham and Klytchnikova 2006). However, in general, a combination of several sources of income has been ensuring welfare sustainability for rural households (World Bank 2005; Shahriari et al. 2009; USAID 2010).

Possibly because of the incipient decrease in industrial production already before the independence, and also the out-migration of Russian minorities (who were mainly employed in the industrial sector) as well as devastations during the civil war, the employment in the agriculture sector rose up to 60% (Lerman and Sedic 2008). However, male labor migrants continued finding better-paid jobs across the borders, and between 2008 and 2012 the listed quantity of workers in agriculture has been showing a drop of male workers and increase of female workers[8] not considering non-registered female workers in agriculture with prevalence of part-time and seasonal low-paid works (FAO 2011). An assumption can be made that the increase of employment was mainly due to the female labor force being highly involved in the sector.

Land reforms as well as male out-migration have led to feminization (Hegland 2010) although not officially recognized, of the agricultural production sector. The employment in the agriculture sector, according to the 1998 provisional official statistics, reached 49.3% of all the registered workers, 30% of whom were women receiving an average wagework income of just USD 6.00 a month in 1998 (TAJSTAT 2012). However, the current agriculture and welfare system has not been fully capable of offering the benefits which were provided during the socialist system (Sipos 1994).[9] Another source of income to which FHHs rely on are kitchen gardens. Kitchen gardening has been evaluated as an important household income-contributing source in the overall household income generation (Yakubov 2013).

The majority of households can be classified as FHHs, because the young as well as middle-aged male household members (from 20 to 40 years of age) are often seasonally migrating for work (Kurbanova and Olimova 2006; ADB 2007; ILO 2010). The term FHHs fits even more, since the contribution of remittances to household budgets is very limited though not in a timely or constant manner. However, given the low payment in agriculture, households are also dependent on more than just the labor contribution of the female household head. Hence, other household members (children and elders) not only take on responsibilities in the household but also contribute to the overall household income (Tandon 2011).

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[6] The term *hecarchi* referring to the Soviet Union time is not gender-specific and makes reference to *kolkhoz* members and their families working on assigned land. After independence, the term *hecarchi* makes reference to *sahimdors* who are working on cotton fields on which they are not obliged to work (which is outside their *brigade*). Hence, an additional labor force working on cotton fields is referred to as *hecarchi*.

[7] *Mardikors* are daily-wage workers, mainly utilized on cash crops outside the state order system.

[8] Ministry of Labour and Social Security, Republic of Tajikistan.

[9] Apart from free health care and education, cheap housing and transport, the socialist system provided all kinds of family benefits. In-kind benefits included the provision (usually free) of crèche facilities, kindergartens, day care centers, and school meals. Cash benefits included family allowances, a birth grant, maternity leave with full pay, parental or childcare benefits (a monthly payment to the mother after maternity leave, and usually until the child was 3 years of age), paid leave for the care of a sick child, various tax allowances and credits, and a death grant (Sipos 1994).

Case Study

Interviews were conducted in different cooperative farms as well as in private *dehkan* farms situated within the Khodjabakirgansai Basin and those which are fed by the Khodjabagirgan canal (35 km) passing through Bobojan Gafurov (with a total irrigated area of 4,038 ha) and Jabbor Rasulov districts (with a total irrigated area of 4,595 ha) of the Sughd Province. These areas were selected as units of study based on the pilot research conducted under the Integrated Water Resources Management Ferghana Valley project. The cooperative farms were occupying the old *kolkhoz* areas and the WUAs were created on the administration-territorial areas of ex-*kolkhozes* and currently serving private *dehkan* farmers inside the WUA territory. The ongoing land and water reforms have resulted in the appearance of distinct forms and structures of farms. Therefore, each farm type found within the region was analyzed (Figure 2) including Jabbor Rasulov Collective Enterprise (CE), Rahmon Nabiev Research and Production Association (Association), Gulakandoz WUA, Obi Ravoni Ovchi Kalacha WUA, and Kotma WUA.

Among the variety of *dehkan* farm structures (Table 3) there are those that remained as collective farms which although similar in having members and top-down structures, possess differences in their management and organizational settings. Just as it was during the Soviet period, the collective farms receive the water directly from the *Vodkhoz* (local government agencies providing water services).

The privatized farms are obliged to register as members of the WUAs, noncommercial and nonprofit organizations. These new water organizations, which were established along with the agricultural reforms, were formed by water users (in most cases farmers only) to manage water resources, deliver water equitably, efficiently and in a timely manner as well as perform irrigation-drainage infrastructural operations and maintenance (Abdullaev et al. 2010). The

FIGURE 2. Map of the Sughd divided into WUAs and collective farms.

TABLE 3. Description of selected farms within the study area and their contractual settings.

Name of Soviet farm /before reorganization	Current name of the farm	Before reorganization	Before reorganization	To present day (April 2013)	To present day (April 2013)	Contractual condition: labor books (employment record books) and pension	Average salary	Conditions and pension payments
	Number of farms as of April 2013	Total size of irrigated lands (ha)	Total no. of members/ % of women	Arable land size of the WUA or a DF (ha)	Total no. of members/ % of women			
"Rohi Lenin" (1950 to 1993); "Jabbor Rasulov" (1993 to 2010)	Production Cooperative Jabbar Rasulov	17,209 Lands are not divided into *sahims plots*. Brigade plots are given for a rent to private entrepreneurs (13 brigades)	2,500 /≈60	≈16,200 ha. From January 2013 around 1,000 ha on the territory of Oktosh were transferred to district *hokimyat* to be converted to living areas (Bobjon Gafurov District)	≈1,200/70%	100% of members have labor books and are provided with pensions In future, it is planned to provide labor books only to those who will work for not less than 3 years. As many are registered to work but not even working for 2 years they go for other work or migrate.	TJS 300; salary depends on types of work in the farm	Pension is paid by the government. Members who have work experience of less than 20 years receive TJS 104; those who have worked for over 20 years, receive TJS 150. On average, they receive TJS 150, as there are many who have worked since Soviet times in this farm
"40-years of October Revolution (from 1957 up to 2004), "Rahmon Nabiev Association of Dehkan Farms" (2004 to 2011)	Rahmon Nabiev scientific production association	2,000	1,500/≈60	2,000 ha	≈300/ Around 35-40 %	All members have labor books. Pensions are received by those who indeed worked. Those who have *sahim*, but are not working do not receive a pension.	TJS 330	TJS 106-150 depending on the length of service (awards and premiums). Paid by government.
"Kolkhoz A. Samatov" (up to 2008)	Gulakandoz WUA Production Cooperative named after A. Samatov (1,249 ha), Djamoat (Union) Gulakandoz (560 ha) and Djamoat (Union) Gulhona (2.5 ha)	Around 5,000	Number not known/ Around 60%	4,700 Including: *dehkan* farms (3,600 ha), kitchen gardens and presidential lands (1,100 ha)	5,000 *sahimdors* including some who have *sahims*, but are not members (workers of DFs).	All members have labor books and are provided with pensions.	TJS 250	Pensions of old *kolkhoz* workers are around TJS 120-180 and paid by the government. However, privatized DFs prefer not to register workers as official members, and very often take them only on temporary contract, so as not to make any expenses for each employee.

(Continued)

TABLE 3. Description of selected farms within the study area and their contractual settings (Continued).

Name of Soviet farm /before reorganization	Current name of the farm	Before reorganization	Before reorganization	To present day (April 2013)	To present day (April 2013)	Contractual condition: labor books (employment record books) and pension	Average salary	Conditions and pension payments
	Number of farms as of April 2013	Total size of irrigated lands (ha)	Total no. of members/ % of women	Arable land size of the WUA or a DF (ha)	Total no. of members/ % of women			
Khojabakirgan *kolkhoz* (up to 1993). Production Cooperative Khodjana-kirgan (up to 2009)	Obi Ravoni Ovchi Kalacha WUA/20 DFs	1,917	2,000/≈ 55%	1,321 ha	1,700/52%	All members have labor books and are provided with pensions.	TJS 230. Depends on the type of work	Pensions of old *kolkhoz* workers equal to around TJS 130 and are paid by government; privatized DFs prefer not to register workers as official members, and very often take them only on temporary contract, so as not to make any expenses for each employee.
Kolkhoz Frunze {up to 1999), Collective Farm named after Pulod Bobokalonov (up to 2009)	Association of *Dehkan* farms named after Pulod Bobokalonov Kotma WUA	1,800	2,025/≈70%	1,784.29	2,025/≈70%	All members have labor books and are provided with pensions.	TJS 250-300	Earlier only preferential pensions were paid by *kolkhozs*. These types of pensions were paid by tractor operators; others were covered by the government. Pensions covered by the government equaling around TJS 120-150. However, privatized DFs prefer not to register workers as official members, and very often take them only on temporary contract, so as not to make any expenses for each employee.

increased number of farm units as well as other lands such as enlarged kitchen gardens and President's lands increased the need for WUAs in Sughd Province. Although, the creation of WUAs would have been important with the appearance of multiple users and uses of water resources the integration of all users into WUAs is still lacking. These associations serve mainly members consisting mostly of male owners/directors of farms and representatives of *jamoats* (community settlements in Tajikistan) (personal interviews with WUA staff).

Depending on the location and organizational form of the farm various agricultural positions were found to be popular among women, namely: *sahimdor, hectarchi, mardikor*, community and farm water masters.

Previously known as Rakhmon Nabiev *kolkhoz*, the Rahmon Nabiev scientific-production association (2,000 ha) has as its main water sources the Khodjanakirgansai and canal water (lifted from the Syr Darya). The association kept its old hierarchical structure of the *kolkhoz*. It consists of the Director (*Rais*) of the Association usually appointed for 3-4 years by the *hokimyat* (district government) of the district (39).[10] Nevertheless, all land shares were distributed to the former collective farm members. Shareholders are locally called *sahimdors*. Rakhmon Nabiev scientific-production association has 300 *sahimdors*. The collective farm is still obliged to grow cotton under state order. As in the olden days, the collective farm is divided into brigades; *sahimdors* are providing the main agricultural labor force.

Jabbor Rasulov Collective Enterprise (CE), occupying 16,200 ha today, used to be one of the biggest *kolkhozs* in the Tajik SSR (17,209 ha). The main water source of Jabbor Rasulovis canal water (lifted from the Syr Darya). The Jabbor Rasulov CE kept the hierarchical structure of the *kolkhoz*, as outlined for Rakhmon Nabiev *kolkhoz*. The old Jabbor Rasulov *kolkhoz* land was divided equally for each *kolkhoz* member working at the time of the restructuring. There are 1,200 *sahimdors*. However, in practice, about 30% of the land is rented out to private farms (under a 25-year lease and a rent payment of 8% of the profit), which have to follow the state order on cotton. While 60 to 80% of the total land of the Jabbor Rasulov CE is under cotton (either kept within the collective or rented out) the remaining 20 to 40% is under what is locally called black crops (*koraekin*), such as corn, wheat, sorghum, onions and potatoes. The area under black crops is managed exclusively by the farm management staff.

Khodjanbakirgan *kolkhoz* (1,917 ha), which consisted of 18 *brigades* with around 2,000 members, was divided along Kodjabakirgansai into two collective farm associations in 1993: Kalacha-*kolkhoz* Bakhoriston (right bank, 596 ha) and Production Cooperative Khodjabakirgan (left bank, 1,321 ha). The Production Cooperatives had already experimented with land privatization and private *dehkan* farms in 1996-1998. In 2001, a commission of the farm determined all the land shares (*sahim*), and land certificates were handed out to *sahimdors*. Either families of *sahimdors*, or groups of *sahimdors* formed *dehkan* farms. Within the territory of the Production Cooperative Khodjabakirgan is the Obi Ravoni Ovchi Kalacha WUA formed in 1998. The Production Cooperatives unite all the *dehkan* farms within its territory (WUA members and nonmembers). While in 2009 there were five *dehkan* farm members during the time of the interview, in 2011, 19 *dehkan* farms were registered in the WUA with the size of the *dehkan* farms varying from 25 to 70 ha. At the same time there are still 10 *dehkan* farms which have direct contracts with the canal authorities for water services. *Dehkan* farms are still obliged to grow cotton under the state order system on 60-70% of the irrigated land (same ratio as during the Soviet Union days) (however, all interviewed male and one female *dehkan* farmers mentioned that they grow less cotton than the state quota).

Gulakandoz WUA was established in the territory of the Samatov *kolkhoz* (4,700 ha), which was established during the 1950s. The WUA is located at the tail end of Khodjabakirgansai,

[10] These numbers represent codes of the interviews listed in the Annex.

and has four sources of irrigation: Khojabakirgan canal, Dekhmay pump canal where water is lifted from the Syr Darya, Isfanasai small river and spring water. The Samatov *kolkhoz* which had around 5,000 *sahimdors* has gone through a process of reorganization starting in 2008. With the disintegration of the Samatov *kolkhoz* the area of the Gulakandoz WUA rose steadily, from three *dehkan* farm members and 1,812 ha in 2009 to 80 *dehkan* farm members and 6,293 ha in 2013.[11]As in the situation in Obi Ravoni Ovchi Kalacha WUA, various forms of *dehkan* farms have appeared; however, most of them are built on old Soviet *brigades* which separated into groups of *sahimdors*.

The Kotma WUA (1,784 ha) was established in the territory of the Frunze *kolkhoz* (1,800 ha) in 2009. It has canal water as its main water source (lifted from the Syr Darya). With the disintegration of the Frunze *kolkhoz* which had 2,025 *kolkhoz* members some of the *sahimdors* that previously formed *brigades* or family relatives have formed 60 *dehkan* farms to date with sizes varying from 2.5 to 400 ha and administered by Pulod Bobokalonov Association of *dehkan* farms. The number of *dehkan* farms and the arable area of Kotma WUA members expanded from 13 *dehkan* farm members and 828 ha in 2009 to 48 *dehkan* farm members and 1,784 ha in 2013.

Collective farms, established during the Soviet Union, had different sizes in terms of area occupied, capacities of production and number of workers. Once restructured, the abovementioned farms have not only changed in their structure and size, but some have also acquired new owners or potential landowners (*sahimdors*). The assignment of collective farmlands to *kolkhoz* members existing at the moment of the restructuring turned them into *sahimdors*, which received a land share; the total *kolkhoz* land was divided by the number of former *kolkhoz* members. Thus, each of the Jabbor Rasulov CE *sahimdors* was entitled to 10 ha/*sahimdor;* in Rahmon Nabiev scientific-production association – 6.6 ha/*sahimdor;* in A. Samadov *kolkhoz* – 1 ha/*sahimdor*; in Khojabakirgan *kolkhoz* – 1.1 ha/*sahimdor* and in Frunze *kolkhoz* – 0.8 ha/*sahimdor*.

Roots of Feminization from the Soviet Union

In the beginning of the Soviet Union the collectivization of private farms broke the tradition of women's role of being housewives and dependents only and introduced women into wage work and economic independence. While originally the *kolkhoz* and *sovkhoz* type farms were supposed to have little gender role distinctions (within nonmanagerial positions), over time, some specializations occurred along gender lines (Interviewees: 19, 41, 46). Planting, weeding, trimming and harvesting became the responsibility of women, while men took over the role of irrigation, transportation, mechanization and heavy land preparation works (Interviewees: 35, 45, 55). Thus, during the Soviet domination a gendered categorization of rural labor had already started. Women had occupied some managerial positions at the lower levels of significance and decision making (female-specialized administrative/ technical education was introduced only during the Soviet Union days). By 1987, the policy of "the rent of cotton plots" was initiated. Under this policy, *kolkhoz* plots (0.5 to 2 ha) were assigned to collective farm members and their families for growing and harvesting cotton according to state plans on an annual basis. *Kolkhoz* members assigned to agricultural lands were called *hectarchi.*[12] They were represented by almost equal numbers of men and women; however, the most tedious work of trimming and gathering cotton continued to be female-dominated; later, and gradually, women outnumbered the men in this position. Thus, the policy of assigning land to *kolkhoz* members manifested a gendered specialization of agricultural work.

[11] The number of members of WUAs had gradually increased as was their managed irrigated area. From 6,000 ha owned by the *kolkhoz*, in 2009 Gulakandoz WUA managed 1,812 ha and the area increased to 6,293 in 2013 having even a larger area of land to manage compared to the Soviet collective farm previously occupying the place.

[12] It is important to point out that, while the work became more gendered, the term *hectarchi* referring to the Soviet Union time is not gender-specific and makes reference to *kolkhoz* members and their families working on assigned land.

Manifestation of Feminization after Independence

With the issuance and distribution of land certificates (*sahims*) to the former collective farm members a new type of legal owner emerged, but in reality it was an employee position. *Sahimdors* while receiving a monthly cash salary are obliged to work on the fields of the collective farm. Not working on the fields would imply that they would lose their land share as well as their entitled pension. At the time the shares were divided between the members, the numbers of male and female members were about the same. Today, due to migration of mainly men, the workforce of the *sahimdors* comprises mainly women. The implication is that female family members take over the labor obligation of the migrated male family member to secure their work place and future pensions (Interviewees: 39, 41, 46). Hence, in practice, female farm workers are predominant. To urge the shareholders to stay as farm workers has been probably the most difficult task for new collective farms due to low salaries and other competitive positions which would offer a higher fee for doing the same job; therefore, they had a rule that each shareholder/member has to contribute by working by himself/herself, his/her family member or hiring people (Interviewees: 18, 35, 51). In case the collective farm or even a private farm sees that the labor contribution of *sahimdors* is not sufficient for the state-order crop (cotton), they hire *hectarchi* workers. The term makes reference to the additional labor force working on cotton fields. *Hectarchi* receive their output-based wage, i.e., cash rewards which are not always stable, or more promising and stable in-kind rewards. *Hectarchi* could either be hired in the beginning of the season or during the season when shortages occur. Women take on this additional work, mainly because of in-kind salary provisions, which cover the needs for some basic food items of the households. The most important in-kind for *hectarchi* are the sheaves of cotton stems for use as firewood.

Female *sahimdors*/farm workers often combine their work in the same farm by replacing other *sahimdors*, or taking other types of jobs in the farm as either *hectarchi* or *mardikors* (Interviewees 19, 20, 21, 22, 25, 35). *Hectarchi* or *mardikor* positions are flexible and output-based (Table 4). Working, especially as a *mardikor* (wage worker) – the most flexible work contract with the highest short-term return is attractive for women, given their weak economic conditions and the social support, and income sources falling short of covering daily food expenses and maintenance of children (Interviewees 23, 56). Working as a *mardikor* often involves traveling daily out of the home villages and more recently even beyond the boundaries of Tajikistan to neighboring Kyrgyzstan (Interviewees 26, 40, 41, 57).

The new private farms, smaller in size compared to vast collective farms, have remained flexible but weak and vulnerable in production and profits. Still experiencing ongoing changes in their development, they could not always afford to have permanent workers and, therefore, they started hiring temporary seasonal workers (Interviewees 8, 46, 49). Hiring temporary seasonal workers is considered as an additional workforce to the minority of official contract-based staff of the private *dehkan* farms. Such temporary daily wage workers (*mardikors*) did not exist under the Soviet system and only emerged with new *dehkan* farms or in cases of informally rented farms. *Mardikors* work under pre-agreed outputs (per day and per ha) and receive daily payments (*kun-bai*). While *sahimdors* and *hectarchi* work on their own former collective farms only, almost 60% of *mardikors* work outside their former collective farms.

While the overall economic conditions in agriculture are low, there appears to be not only a trend regarding wage workers, based on historical reputation as hard workers, but also some reemerging cultural restrictions and a general trend on the spread of reforms based on geography (water availability).

Mardikor groups and *dehkan* farms interviewed in upstream and downstream WUAs stated that upstream *dehkan* farms prefer to invite *mardikor* groups from downstream Gulakandoz, or even sometimes from neighboring areas of Kyrgyzstan. A female member of an upstream farm located in Obi Ravoni Ovchi Kalacha WUA explained that they go to Gulakandoz and other similar downstream villages to search for seasonal workers as there are many good workers, who earlier belonged to the

best-performing collective farms in the Soviet Union. In addition, those areas experience water scarcity and thus they face fewer work requirements than the Obi Ravoni Ovchi Kalacha area and less harvest (50). According to interviews with women from upstream areas, they are less likely to work as *mardikors*. According to them, *mardikor* works are not always seen as positive: "men do not much allow women to work or talk with unknown men (farmers) in order to negotiate their work price and to work far from their communities" (Interviewees: 56, 57, 58). However, it is also likely, that the speed of implementing the reforms had an impact. The area under *dehkan* farms increased slower in Gulakandoz than in upstream Obi Ravoni Ovchi Kalacha WUA. It is likely that there is better water availability upstream, but also that there is non reliance on lift irrigation and therefore fewer debts of the collective farm, which triggered farmers to leave the collective system earlier. Having a better water supply might also explain that the workload on the farms is higher; hence upstream women would work on their own land instead of working as *mardikor* on other downstream lands – which would also not require additional labor due to less water availability.

Traveling to other districts or even performing cross-border wage works in Kyrgyzstan, as well as working in farms managed by men have been traditionally considered as inappropriate and even shameful for women. This is especially the case because daily jobs have been unpredictable, in terms of location and for whom to work. Nevertheless, more women started to work as *mardikors*. Possibly, because of the traditional restrictions and the unpredictability of demands, *mardikors* started organizing themselves in groups managed by a leader (*brigadir*). It appears that some women have taken the lead to organize *mardikors* into groups and to negotiate the workload and payment with individual *dehkan* farmers. These group leaders are mainly older and respected women in the community. The benefit for the *dehkan* farmers is that they do not have to gather individual females, which again would be inappropriate, but could contact the more senior group leaders "to order" a group of female wage workers to attend to their field. The organization of these groups has enabled women to work far away from their villages and therefore benefit from more job opportunities. Gulakandoz groups were considered as brave and experienced in leading negotiations with male representatives of upstream farm leaders and reaching an agreement for their benefit. Negotiations on payments are not always easy as most of the farm owners are men; the women leaders of groups have to be adept and be able to speak well to be able to make the farmer accept the requirements of the group (Interviewees 55, 46, 9). All *mardikor* work leaders try to maintain a quality of provided services to get constant farmer clients; and to compete with other groups they have to perform speedily and maintain the quality of their jobs (Interviewees 56, 1). Some *mardikor* group leaders already had a list of names of farmer clients who have been hiring them continuously; this might show signs of a small service business development.

Women have also, to some extent, taken over the role of water masters within the village communities and within some *dehkan* farms, although the presence of men is yet prevalent. This is due not only to the increasing demand for water masters with the rise of smaller farms and the male migration entailing loss of skills but also, especially in village communities, to the fact that migration has led to households being represented mostly by female members of the family. In the context of present male out-migration, appearance of more female-headed households and traditional and religious distancing of females from other non-kinsmen, male water masters would not be able to enforce water distribution to kitchen gardens and collect fees from the FHHs. There are traditional and religious reasons for male water masters to be unable to exercise their duties. The male *mirob* cannot shout at women, fine them or close their water due to traditional manners set in this area and, also, as the kitchen gardens are the main sources of survival of many families.

Institutions such as WUAs have also been gradually capturing the needs of the new type of users such as FHHs. Currently, members of WUA staff prefer to hire women for gathering water service fees from the households, so that female payees would feel more comfortable and would be

TABLE 4. Characteristics of agricultural positions and jobs. Summary of interviews gathered in five organizations situated in the Sughd Province, Tajikistan.

	Sahimdor	*Hectarchi*	*Mardikor*	*Mirob*
Proportion of females from the total number of workers in this position	Over 50%	Over 95%	Over 98%	5%
Age ranges	40-80	25-65	16-60	30-60
Period of seasonal works	April-November	April - December The workload of *hectarchi* falls on 3 to 4 days per month continuing up to late November till all the sheaves of cotton and firewood are gathered.	April-December	April-October
Types of work performed	*Sahimdors* have to perform all the agro-technical tasks required for planting, growing and harvesting the crops. Land preparation work, cotton planting, weeding, clipping, and work with other crops.	Land preparation work, cotton planting, weeding, trimming top foliage of cotton plant, gathering the cotton harvest, gathering firewood from the cotton fields.	Mardikor group members are plagued with weeding and harvesting vegetables, potatoes, fruit trees and rice (Interviewee 56). *Mardikor leaders:* Responsible for assembling women and creating a group for an assignment; manage all communications and negotiate with farm mangers; organize transportation and on-site management of the group and their performance; often, perform as much work as other group members.	Community water masters: Gathering water service fees from each household and allocating and distributing water among households according to turns. Farm water masters: Control and allocate water to the farmland (approximately up to 20-25 ha), measure the water needs and expenditures.
Fees (salaries and in-kind payments) USD 1=TJS 4.8; date: November 2011	Contractual salary: USD 30-80/month In-kind: Depending on what is planted could be: 100 kg of rice = USD~48; 50 kg of wheat = USD ~55; 10 kg of vegetable oil=USD 15, fodder- kg, flour-50 kg= USD 20 In-kind compensation is constant Remuneration is not sensitive to type of crops, or period of the season.	Informal salary: USD 180-200/ season In-kind: Depending on what is planted; could be fodder, corn, firewood.700 sheaves of cotton stems=USD 300/ per season (from 1 ha 1,200 sheaves of cotton stems ~TJS 2,400 ~USD 500) In-kind compensation is constant only for the firewood (cotton stems); remuneration is sensitive to period of the season, not sensitive to type of crops.	*Mardikor* group members Upstream (Ovchikalacha area): Fee: USD ~4-5 /day Downstream (Gulakandoz) Fee: USD 3-3,5 / day Benefits: products grown in the DFs' plot offered below market prices. In-kind compensation absent; remuneration is sensitive to crops and period of the season. *Mardikor* leaders: Fee: USD 4-5/day	Community water masters: For water provision service a female water master receives from TJS 3 to 5 (around USD 1.00) per 0.01 ha annually from each household, Farm water masters: ~ USD 70/ha

(Continued)

TABLE 4. Characteristics of agricultural positions and jobs. Summary of interviews gathered in five organizations situated in the Sughd Province, Tajikistan (Continued).

	Sahimdor	*Hectarchi*	*Mardikor*	*Mirob*
Organization of works	Working: either by themselves or with other family members and if they can afford they sometimes hire people to do CE's obligatory job (Interviewees 19, 20, 21). Allocated working plot of *sahimdors* is not constant in its assignment to each member, as the given land plot might be rotated because of annual replanting process.	"*Hectarchi*" they take 1 or 2 ha and 3-4 times per month and do various kinds of work.	Leader: Usually all women appoint one woman (leader) who organizes all women, negotiates with DFs and manages the work. The brigadier negotiates the price and if she does not agree she waits or calls the other person on her list. Place: Usually *mardikor* groups gather near big canals situated along the main roads or the building of a community gathering place or simply the house of *mardikor* group leader. Each group of *mardikors* interviewed had their own place of gathering.	To manage the water flow, control the quantity, norms of irrigation for each crop; using hay in order to irrigate cotton according to its norms; using plastic bags for partially blocking the water and for its equal distribution on the farmlands; measuring the water level with a stick; teaching other women and men to irrigate the land.
How to becomean agricultural worker?	*Sahimdors* originally ex-*kolkhoz* workers. They are present in CF and DFs. Share in the land (*sahim*) till they die and it can be passed over to next generations Most *sahimdors* could obtain land certificates, but when they are within DF or CF they do not have any decision-making voice on what to plant or how to distribute the profits	*Hectarchi* can make an inquiry at the farm authorities about taking a hectare of cotton and agree with conditions of work and fees for the job. Based on the previous experience and result up to 3 ha could be given.	Seasonal wage workers (*mardikors*) appeared after the collapse of Soviet Union when there were times of deficit. I went for 50 (cents) at that time. Any woman can ask within community from relatives about *mardikor* groups and join one of them. Any woman can find groups in their communities or ask their relatives about *mardikor* groups and there are no restrictions for joining *mardikor* groups. The average number of a group of workers that is usually required is around 30-50 *mardikors*; however, for the DFs the output is much more important than the number of workers.	Currently, females are learning and becoming farm or mahalla water masters either based on their knowledge acquired during the Soviet Union days or learning from an elder, experienced male and female *mirobs*.
Reasons for doing seasonal works	Obliges since they are members of the CF or DF.	"Women have to do these types of private jobs since there is no work".	Earning money for the family by replacing male breadwinners Having a part-time, additional job. Flexible and well- paid job compared to other positions.	Out-migration of men. Lack of *mirobs*, often. When there is lack of water farms have to finish irrigating during the allocated time and turn given by the water agency (*Vodhoz*), that is when women capable of doing irrigation work in the farms are involved in the job.

better influenced and obliged to give the money. Usually, hired women have other authoritative positions of leaders in their communities, and therefore having higher bargaining power as well as voice among women and can spread the word about non-payees to others. Recently, WUAs started involving women not only for gathering water service fees but also in appointing them together with the community leader as community water masters (six women and only two men were found to be taking this duty in the research area; however, all the *mirobs* working in the WUAs as full- or part-time staff were all men) by putting them in charge of distributing water among the households. Nevertheless, in the three examined WUAs not even one woman was found working there officially.

Growing possibilities of women to cover their own and family expenses have not only given them economic independence but also resulted in strengthening of their bargaining power within their households and the community, and created opportunities to experience and exchange information with farm workers, *hectarchi* and *mardikors* working in groups (Interviewees 26, 35, 42). Various roles in agriculture have developed security nets of sources serving as additional income for rural women. Whether having a share of land in a farm and being a member of the CE, owning and working in the kitchen garden or searching for wage work, rural household members intend to diversify their sources of income using this as a strategy in maintaining food security and managing possible economic risks to their livelihoods. Women have been viewing many of the past and present positions through the prism of their needs and risks, underlining social welfare benefits and stability of salaries during the Soviet times.

Discussion

The ongoing land reforms in Sughd Province have turned to be complex not only in their process of restructuring and identification of ownership after the fall of the Soviet Union, but also in their unequal consequences for the rural population working in the farms. These inequalities are based on the process of privatization which was equal within the farm unit but unequal between the farms. As mentioned before, the size of *sahims* was determined by the size and number of employees within one *kolkhoz.* As highlighted in Table 3, the sizes of the *sahim* plots vary within the case study area substantially (Jabbor Rasulov - 10 ha; Rahmon Nabiev – 6.6 ha and Gulakandoz – 1 ha). A very surprising finding is that the *kolkhoz,* which was previously seen as the best performer and the former staff had the reputation of being hard working seems to have received the smallest *sahims* in the case study area. This inequity between *sahims* of different *kolkhozes* might be a key explanatory factor for the establishment of private farms. In addition, the consequence of the process is the creation of potentially small subsistence as well as larger farms from the start. The subsistence farms could possibly imply more de facto female heads of farms.[13]

Based on the categorization of formal or informal and secure or flexible mentioned in the international literature (Chen 1996; Berger and Buvinic 1988; Standing 1999; Chen et al. 1999) the female occupations found can be classified as follows (Table 5):

The mentioned overlaps of formal and informal or secure and flexible between the three

[13] In addition to the inequity of the size of *sahims*, the location of the *kolkhoz* along the canal or *sai* appears to be a key factor for the economic activity of women. Possibly by being at the tail end of the canal as well as the Khodjanbakirgansai Gulakandoz women are more active as *mardikors*.

TABLE 5. Classification of occupations adapted to positions analyzed in the case study.

	Occupancy period	Formal contract	Informal contract	Secure, constant or predictable contract	Secure, constant or predictable wage	Secure pension	Flexible
				Soviet period			
Farm employee	Full-time, multiple year contracts	Labor book		Multiyear/ secure	Constant – monthly cash part of salary and in-kind payment	Pension and social security package	Full-time
Hectarchi	Part-time, annual agreements additional to farm employee contracts	Labor book as farm employee		Annual/ secure	Constant – seasonal cash in addition to the farm employee salary in-kind depending on the performance according to the plan.	Additional benefits added to pension	Part-time
				Period after independence			
Sahimdor	Part-time, multiple year contracts	Labor book	n/a	Multiyear/ secure	Constant – monthly cash part of salary in-kind payment not constant		Part-time – according to agricultural requirements
Hectarchi	Part-time, seasonal labor	No labor book	Seasonal oral contract	Seasonal/ not secure	Not constant; output-based cash/ unpredictable; in-kind payment constant/predictable	n/a	Part-time – according to agricultural requirements
Mardikor	Daily wage labor	No labor book	Daily oral contract	Seasonal/ not secure	Seasonal/not secure	n/a	Part- or full-time according to individual needs and agricultural requirements

Note: n/a = Data not available.

positions found within the case study appear to be based largely on the part-time position of *sahimdors* as well as the insufficient remuneration of the formal position. In addition, there are observed overlaps within the informal or flexible category between *hectarchi* and *mardikor*. These are mainly based on the different household needs which are covered due to the remuneration within the different categories (in cash or in-kind).

Although the categorization between secure and flexible appears to be straightforward the existing payment for *sahimdors* which is partly cash and partly in-kind, would render the categorization of being secure into question, since the in-kind payment is not guaranteed. Hence, from the three mentioned categories constant contract, wage and pension, it is not clear whether all three should apply equally or whether one should take priority over the others. In addition to this, although the *sahimdor's* position implies a constant contract, in practice the employer is more interested in getting the job done. Hence, in practice it is not the particular *sahimdor* who is fulfilling the task, but also other family members or hired workers who either replace the male *sahimdor* or help the elderly *sahimdors* in the fulfillment of their task (this is similar to the case of *hectarchi* tasks in which the family members are involved). Therefore, although there is a constant contract with a specific individual, in practice there is flexibility on who is fulfilling the task under that particular contract. This flexibility contributes to household security. However, while the distinction between secure and flexible centers on the

individual, the practice in Tajikistan appears to have household or family unit in the center.

Because of their labor book *sahimdors* have the most formal position. However, one has to take into consideration that this formal position does not provide livelihood security, but that it might potentially lead to a farm plot (varying in size) as well as some pension (which is also not sufficient for livelihood security).[14] The *hectarchi* position offers flexibility and stability. However, only in-kind salary is obtained. While from the outside this would look as the worst position, cotton sticks which are allowed to be gathered at the end of the harvest season are the essential energy sources. Hence, they are crucial for food preparation or for heating during the winter. The *mardikor* position, which could be seen as the worst in agriculture (according to the classifications) provides the highest income. Therefore, these positions would be the most important sources to cover daily expenses for the household. Hence, the main flaw of the existing categorization is that it does not take into consideration that formal positions do not provide sufficient salaries but have mainly long-term benefits (although also not secure and not sufficient for covering livelihoods). In addition, considering the still ongoing restructuring processes, the positions with certain farm types indicate a certain vulnerability. Hence, after the restructuring process is finalized, it is unlikely that *sahimdors* or even *hectarchi* positions would exist. Changes in farm types may influence even the most secure agricultural positions and push women further into the informal labor market. For women, these informal positions are essential and offer flexibility of time management, giving them the opportunity to earn and at the same time fulfilling other family obligations.

The parallel employment of women in the formal as well as the informal sector appears to target different fulfillments of short-, medium- and long-term needs for the household. Hence, a more appropriate way of classifying the current setting in rural Tajikistan would be according to which position (and therefore remuneration) covers which household need, keeping in mind day-to-day, seasonal/medium and longer-term benefits. Based on the interviewees, Table 6 provides a categorization of positions, remuneration and needs that are covered.

The positions covering the needs show that most of the day-to-day and seasonal needs are covered by women working as *mardikors*, *sahimdors* and *hectarchi*. The majority of respondents have indicated that big investments such as on the house, weddings, and higher education are covered by male household members through remittances. While house, wedding and higher education could be culturally interpreted as esteem needs, given the cultural setting of children providing for their elderly

TABLE 6. Employment positions and basic needs.

Employment positions/ Sources of income	Needs covered	Time perspective
Mardikor	Physiological needs: Food, water and sanitation. Safety needs: Health and education (school). Esteem needs: Increase of intra- household bargaining power.	Day-to-day; medium term
Hectarchi	Physiological needs: Cotton sticks for heating and cooking.	Day-to-day; medium term
Sahimdor	Contribution to safety needs: Health and education (school). Contribution to future physiological and safety needs. Ownership of agricultural land (property). Medium term; long term	

[14] The tradition of children taking care of elderly parents and living with them has been preserved in the central Asian societies to the present day. The youngest son must prepare himself to take care of his parents in their old age (Countries and Their Culture 2013). Therefore, pensioners often rely on their children and less on pensions. Parents work hard to cover the needs of their children for education at least the primary, “putting them on their feet” meaning to support them in finding jobs and establishing their own families.

parents, higher education could also be classified as an investment in future safety needs. Since the *madikor* position is the most well-paid job, it has also contributed to a shift in bargaining power within the household. Hence, through the new position as *mardikor* women received the recognition as income earners and providers for the family. Hence, the new position has contributed to the esteem needs of women. Interestingly, *sahimdors* with their work on the land title, as well as for the work on the land of the migrant household member did not get a similar recognition. Similarly, after being privatized, the land share and therefore the recognition of the contribution of the female household member earning the land share is not recognized.

Conclusion

The case study of Sughd Province has highlighted the dynamics within the agriculture sector as well as the complexity of the current farming systems, with different forms of agricultural enterprises still being present. In addition, it has highlighted the process of feminization, its drivers as well as the specifics of feminization due to locality and past dependence. Although the trends of feminization in agriculture had started emerging already during the Soviet period, it became more vivid with recent restructuring of state and collective farms, male out-migration and the appearance of cash crops.

Revisiting the literature on employment categorization and basic needs and utilizing these in the case of feminization of agriculture in the Sughd Province of Tajikistan have highlighted that both approaches have advantages and disadvantages and it is only by looking at both in combination that the understanding of the nuances of employment in the case study is facilitated. The need for utilizing the two approaches is based on the fact that the formal and most secure contract position of a *sahimdor* only partly covers the day-to-day and medium-term livelihood needs of the individual or a household, but has the long-term benefits of receiving a plot of land and a low pension. Given the low remuneration of the most secure job, individuals and household have to strategize and take on multiple labor positions to cover the needs of the household. In addition, the overall shortages of energy resources in Tajikistan, have led women to take on jobs with combinations of cash and in-kind remuneration (cotton sticks), since cash payments are not stable and unpredictable; hence, the overall least attractive job from the employment categorization perspective appears to have clear advantages from the basic needs perspective. Therefore, combining the two approaches in the context of the transition economy of Tajikistan is necessary for understanding the on-the-ground reality.

Looking at the appearance of feminization, it seems that there is a clear trend which is driven by the unequal distribution of land resources and the shift from cotton crops to more commercial crops. The case study highlighted that collective farms which distributed smaller *sahims* to their members have already been privatized and collective farms with bigger *sahims* are still operated according to the old system.

While in the privatized farms the role of the household women changes back to the traditional roles and responsibilities, the farms which have not been privatized, and which cannot be privatized anymore through employment contracts, sustain the livelihoods of its members, and have created the surplus labor pool of the ongoing feminization. The privatized farms, with their partial shift to cash crops, have created the additional labor demand and employment position (*mardikors*). Hence, the transition from public to private farms has dual consequences for women. While the owners of privatized land plots revert to traditional roles (patriarchal family structures) and are less

involved in the new positions, the group with land rights, still kept within collective farms, is forced to look for additional employment (strengthening of intra-household bargaining power). These two developments will have significant but contradictory influence in terms of how the cultural understanding of the role and responsibilities of women is defined.

The diversified household strategies imply that women in agriculture might not be adequately targeted in policies or integrated within intervention programs indicating the need to reform the systems of social labor protection. One targeted policy is the formation of 'cooperative labor units' among female *mardikor* workers, to better address insecurity and formality of such labor relationships. Moreover, it is essential for all the farm structures and agricultural institutions to learn more about the needs of women employed within the agriculture sector and create better incentives for fulfilling their jobs and family responsibilities. Hence, there is an opportunity and also a need for characterizing existing agricultural production modes for better targeting women involved in various agricultural positions and contractual relationships.

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Annex. Details of Interviews and Profile of Interviewees Referenced in the Paper.

Code	Interviewee	Location	Name of the district	Date of interview
1	Ma'muraka/male/his wife/farmers	Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
8	DF Director/male/farmer	Farm in Gulakandoz	WUA Gulakandoz	14.11.2011
9	Norinisa Khalimova/female/ Agronomist	Jamoat 9, Gulakandoz Jamoat,	Jabbor Rasulov	15.11.2011
40	*Mardikor* 9/female/land renting/ *Mardikor* 2	Jabbor Rasulov Collective enterprise, Navobot, Gulakandoz	Jabbor Rasulov	19.11.2011
41	Anorjon/female/Accountant	Jabbor Rasulov Collective enterprise	Yova Jamoat Bobojon Gafurov	19.11.2011
42	Women near the Sai District/female/ Kolkhoz worker	Jabbor Rasulov Collective enterprise	Yova Jamoat Bobojon Gafurov	20/11/2011
18	SalomatMahmudova/female/ Deputy of mahallawisemen, *sahimdor*	Bolim 3,4, Gulakandoz Jamoat	Jabbor Rasulov	16.11.2011
19,	Khikoyat Homidova	Bolim 3, 4 Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
20	Director DF 1	Bolim 3, 4 Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
21	Man 1	Bolim 3, 4 Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
22	Woman 1	Bolim 3, 4 Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
25	Woman 2	Bolim 3, 4 Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
26	*Mardikor* 1/ Hectarchi/male	Gulakandoz Jamoat	Jabbor Rasulov	17.11.2011
31	DF Accountant/DF Accountant/ Male/	Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
35	*Hectarchi* 8/*Mardikor* /female	Gulakandoz Jamoat	Jabbor Rasulov	17/11/2011
38	Murothoja/45/Male/ Deputy of Collective Farm	Jabbor Rasulov Collective enterprise	Yova Jamoat Bobojon Gafurov	18/11/2011
39	Odil/District/Male/Hydro-technician	Jabbor Rasulov Collective enterprise	Bobojon Gafurov	19/11/2011
45	Maruf/Male/Rais	Rakhmon Nabiev Research and production association	Jabbor Rasulov	21/11/2011
46	Dadojon/WUA Kotma/male/Director	Kotma	Kotma	21/11/2011
48	Sabohat/Female/Brigadir and renting land	Jabbor Rasulov Collective enterprise	Novobod	21/11/2011
49	DF Director/42/ Male/Farmer	Private farm in Obi Ravoni Ovchi Kalacha	WUA Obi Ravoni Ovchi Kalacha	22/11/2011
50	Wife of Usmanjonako/Female/ *sahimdor*	Village Ovchi Kalacha, uchastok-2	WUA Obi Ravoni Ovchi Kalacha	22/11/2011
51	Muhabbat Qobilova /female/ *Sahimdor*	Village Ovchi Kalacha, uchastok-2, Guliston	WUA Obi Ravoni Ovchi Kalacha	22/11/2011
52	Munira and Mehriniso females/ Farm Water masters/*Sahimdors*	Village Ovchi Kalacha, uchastok-2, Guliston	Bobojon Gafurov/ WUA Obi Ravoni Ovchi Kalacha	22/11/2011
54	Hojiona/Female/*Sahimdor*	Village Ovchi Kalacha, uchastok-2, Guliston	WUA Obi Ravoni Ovchi Kalacha	22/11/2011

(Continued)

Code	Interviewee	Location	Name of the district	Date of interview
55	Sharofat/Female/Brigadir/Birigada 4	Rakhmon Nabiev Research and Manufacturing Association	Jabbor Rasulov	21/11/2011
56	Karimaopa and other *mardikor* women/ Female/Brigadir of *mardikors*	Upstream areas/Isfisor/ Near Ovchi Kalacha District	Bobojon Gafurov	23/11/2011
57	10 *mardikor* women	Village (Ovchi Kalacha District)	Bobojon Gafurov	23/11/2011
58	Brigadir of *mardikors*/ Female	Isfisor/Upstream areas	Bobojon Gafurov	23/11/2011
59	*12 mardikor* /Female/mardikor	Farm	Bobojon Gafurov	23/11/2011

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Postal Address
P O Box 2075
Colombo
Sri Lanka

Location
127 Sunil Mawatha
Pelawatta
Battaramulla
Sri Lanka

Telephone
+94-11-2880000

Fax
+94-11-2786854

E-mail
iwmi@cgiar.org

Website
www.iwmi.org

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