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Masters and networks of knowledge production and transfer in the cotton sector of Southern Tajikistan

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Masters and Networks of Knowledge Production and Transfer in the Cotton Sector of Southern Tajikistan

Hafiz Boboyorov

Abstract

According to the media and some journal articles, powerful state actors and institutions play an exclusive role in maintaining cotton economy which is the dominant agricultural sector in Tajikistan. This understanding shapes a binary division and opposition between central and local actors and between imported and indigenous knowledge. The current article discusses the case of agricultural knowledge in the cotton sector to show how the existing personal networks of people influence the institutional rules and norms of knowledge transfer and exchange. These personal networks shape the interactions and alliances of agricultural actors, including masters, elders, religious notables, state authorities and international specialists. They also dominate development missions in the agricultural sector and determine the institutional performance of the state.

Keywords: personal networks, agricultural knowledge, agricultural actors, cotton economy, Tajikistan.

1 Introduction

This article investigates the role personal networks of people (such as kinship and patron-client) play in the generation, exchange and transfer of agricultural knowledge. The case study is that of the elite-run cotton economy in the south-western region of Tajikistan, the lowland and cotton-growing Shahritus district of Khatlon Province. The province accounts for around 17 per cent of the country's area and about 35 per cent of the 7.3 million population of the country. The rural inhabitants of the province constitute 83 per cent of the population, according to official data (Government of Tajikistan 2007: 5).

In the pre-Soviet period the subtropical lowland areas of Khatlon province were sparsely inhabited by some native Tajiks and nomadic and semi-nomadic Uzbeks and Arabs. After World War II the government brought about 320,000 ha of land in the province under extensive irrigation, subsequently changing it into one of the central cotton-growing regions of the Soviet Union (Ibid.). Due to a lack of manpower for the expansive cotton plantations, the government relocated people from the mountainous communities of the eastern part of Tajikistan, from central and northern Tajikistan, as well as from Ferghana valley and the east-southern parts of Uzbekistan. As a result, the central and south-western districts of the province, where I have undertaken field research,¹ constitute ethnically heterogeneous communities of Tajiks, Uzbeks, Arabs, Turkmens, Kyrgyz and others (for the discussion of forced population transfers during the Soviet Union, see also Roy 2011[2000]: 96-7).

The Soviet government established land and other agricultural resources as state properties and hereby employed peasants in the state-run cooperative enterprises and collective farms, including kolkhozes and sovkhozes. In lowland areas, such as the Khatlon province, the collective farms were specialized in certain crops. Cotton monocropping was one such means and relations of production that was expected to mobilize peasants in a unified economic and social class. This was the main purpose to alienate rural population from the private possession of agricultural resources and personal access to market economy which could distinguish them from the working class. Only were kitchen gardens (*tamarqa*) allotted for them which they mainly used for their subsistence needs. However, these attempts did not develop the proper class structures and relations as expected but rather still maintained and transformed personal relations. The state elites became actual or 'administrative' possessors of state properties while the workers of the collective farms accessed these properties in return for personal indebtedness to the elites (Verdery 2004: 22-3, 30). Consequently, the Soviet institutions and actors were transformed into personal networks of kinsmen, peers and patrons-clients.

¹ The qualitative data have been collected through a social-anthropological field research since January 2012 which complements my PhD thesis on "Kinship and Islam: The Role of Collective Identities in Shaping Institutional Order of Patronage in Southern Tajikistan". The current field research has being implemented at the Center for Development Research of Bonn University in the framework of its two research projects – one on "Conversion of Knowledge in Post-Soviet Agriculture: The Impact of Local Governance on the Knowledge Management of Agricultural Actors" (funded by Volkswagen Foundation for the period of 2011-2013) and the other on "Epistemic Cultures and Innovation Diffusion in Post-Soviet Southern Caucasus and Central Asia. Pilot Study on Agricultural Knowledge Systems in Georgia and Tajikistan" (funded by Federal Ministry of Education and Research of Germany).

The similar system of property relations based on personal networks has been survived through the post-Soviet Tajikistan. Shortly after the collapse of the Soviet Union, the state elites struggled for the division of state power which resulted in the civil war during 1992-97. The legal reform and transformation of land and other agricultural resources has been started in 1991 and arbitrarily undertaken through the civil war. The final stage of the land reform through 1997-2005 has reinforced state ownership of agricultural resources as the central principle of the existing property relations (USAID 2004; Nissen 2004; Law of the Republic of Tajikistan 2005[2002]; Porteous 2009; Government of Tajikistan 2011; Government of Tajikistan 2007). Also 'stakeholder right' (*sahmdori*), i.e. the central regulation of the land reform² could not establish equal right to state properties, including land. Most people have full right only to their kitchen gardens and to some support land plots (*presidenti*³). This institutional condition has reaffirmed the elites' 'administrative' rights to agricultural resources and activities and has consequently intensified reciprocal and landlord-tenant relations between them and the rural population.

Since the fall of the Soviet Union Tajikistan's agricultural sector has sharply decreased its contribution to the country's overall GDP. According to official reports, the contribution fell from 37 per cent in 1991 to 18 per cent by 2008, even while continuing to officially employ two-thirds of the total population. Also the agricultural products constitute one-fifth of exports and 39 per cent of tax revenue in 2008. Raw cotton accounts for 17.3 per cent of total export revenue in 2004 which constitutes 90 per cent of agricultural exports. The recovery and growth of the cotton sector in the post-civil war period have also increasingly absorbed the country's land and water resources. The sector exploits 45 per cent of the country's 0.8 million ha of arable land and 75 per cent of the labor force in the cotton-growing communities (Government of Tajikistan 2007: 5-8; SOAS 2010: 6-7, 23). Without contributing to the wellbeing of individual poor families, thus, the sector is closely associated with inequality and poverty. The World Bank asserts that "in Tajikistan almost three-quarters of the extreme poor live in cotton-growing areas..." (In: SOAS 2010: 23). To contribute to the reduction of poverty rate in rural areas, therefore, the reform activities of the Tajik government, World Bank, ADB and other development institutions, in the post-civil war period, have focused on land privatization within the cotton sub-sector (Government of Tajikistan 2007: 6).

Regardless of this situation, however, cotton shapes the national political economy of the Tajik state (SOAS 2010: 6). As the position is officially expressed, "[c]otton is not only an important crop for our Republic; it is entwined with our history and with the lives and future of our people" (Government of Tajikistan 2007: 4). The proclaimed land reform and the liberation of agricultural enterprises, thus, could not abolish the elite-run institutions and practices which prioritize and

² According to the Law on *Dehqan* Farms (2005[2002]) and its further amendments (cf. USAID 2004), all rural inhabitants, both men and women, have proprietorship right to equal amount of land and other resources, including public properties of the former sovkhov/kolkhoz.

³ 75 000 hectares of arable, so-called '*presidenti*', land plots were distributed twice – on the bases of Decrees of the President of the Republic of Tajikistan No 342 in 1995 and No 874 in 1997 for wheat production and food security of the individual households (Government of Tajikistan 2011: 39). It was formally titled as 'support' ('*yorirason*') land resource for the households who did not have more than 15 *sotikh* (0.15 hectares) of household yards (*tamarqa*) for agricultural activities. The portion of 3 *sotikh* per family member was set for *Sayyodi* villagers although further cut of land resources and demographic shifts, such as the increase in population and households and internal and external migrations, were not taken into account (Hamroev Ghayratsho. 2007. Interviewed by Hafiz Boboyorov. Shahritus District. December 7).

monopolize the cotton economy. Today the elites of the central state and their privately owned investment (so-called 'futurist') companies monopolize the cotton sector. The 'futurist' system has been operating supposedly to solve "the immediate problem of providing farmers with the basic means of production" (Ibid. 8).

Additionally, the 'cotton elites' dominate the key cotton enterprises and infrastructure (including collection stations, cotton plants and agricultural machines) as well as the domestic and international markets of raw cotton. The attractiveness of the cotton economy is, first of all, due to the fact that cotton is the only crop which can be sold in international markets, and can therefore benefit the elites (International Crisis Group 2005). These elites have to rely on their client farmers and personal networks within the cotton communities, because the majority of rural families do not have economic incentives to work in cotton farms. Consequently, the client farmers run the cotton farms of their kinsmen, neighbors, peers and religious communities.

This situation also shapes and enforces personal networks as the main source for the transfer and exchange of important knowledge about agricultural crops and services. Personal networks, in turn, maintain key factors of knowledge transfer and exchange, such as inheritance along kinship and patron-client networks, loyalty to cotton economy and status and skills for the maintenance of social and political stability. The empirical parts of the paper discuss the practices of inheritance of agricultural knowledge. The status of heir and his personal relation ('backing') to the bearer of knowledge ensures his direct and intensive training and reputation and trust among the local population. The cotton elites rely on them to run cotton farms due to their 'experience' in maintaining social and political stability. Here 'experience' involves some types of knowledge, such as status and skills of the masters to influence and commit people to the stability of political and economic relations in the cotton sector. The article discusses these types of knowledge which substantially reduce the role of technical knowledge of cotton growing and marketing.

Part one of the article outlines the theoretical framework employed and reflects upon the use of network theories in understanding social and economic relations. Here I define the notion of 'network society' and elaborate the network-based sharing and transfer of agricultural knowledge. Such knowledge, including its traditional types, is not power-neutral but rather serves as a political resource for maintaining personal networks.

Part two of the article discusses how different types of agricultural knowledge are intertwined. This finding criticizes the general assumption that 'local knowledge' is politically neutral and often horizontally shared among the community members and therefore isolated and excluded by some external (like state) actors (Wall 2008). Here I discuss the role of local masters or the bearers of local agricultural knowledge. These local masters include 'experienced' or knowledgeable and powerful peasants (*tajribador*), heirs of traditional agricultural, construction and ceremonial professions (*usto*), family seniors, religious notables (such as *hoji* or pilgrim and *eshon*) and reputable women. Due to their status among the local population and personal relations with state authorities, therefore, these masters own and run important agricultural resources and enterprises, including cotton farms.

Part three of the article discusses the case of cotton monoculture which is monopolized by state elites. The state elites can only maintain their monopoly over the cotton sector by relying on their client masters, who are often the former elites of the Soviet agricultural enterprises, family seniors and religious notables. Often these masters establish and lead the cotton farms of their kinsmen, neighbors, descent groups and other related people. To enforce these network-based

agricultural enterprises, they also dominate local political structures, such as *mahalla* committees⁴, which reinforce kinship and patron-client relations in the cotton sector.

The final case, in part four, is about the agricultural extension services of local and international NGOs. In the study region many international donor organizations and their local partners offer extension services to individual farmers. These services are primarily devoted to fair and transparent distribution of professional knowledge and technologies related to soil, seeds, fertilizers and agricultural machines. The discussion considers how the services are embedded within the personal networks of the farmers and the NGO employees.

⁴ *Mahalla* Committee or *Mahalla* is the village-level semi-governmental political structure combining traditional and state authorities.

2 Personal networks of agricultural knowledge

The proponents of network theories try to understand how a society works beyond social differentiation based on clear-cut boundaries of communities, groups and classes. Any personal ties of kinsmen, neighbors, peers, descent or ethnic groups, religious communities, patrons and clients, and others shape the crosscutting networks of interactions at different levels. These networks are not reduced to primordial ties, such as ethnicity and caste, and also confuse class relations (Michie 1981: 23; Blackwood 1997: 278). Here the scholars describe such logic of weak social and economic stratification due to unstable status of the involved people in the interactions, like owners and laborers in patron-client networks (Blackwood 1997: 286; Stein 1984). This is despite the class position defining networks as for co-opting and muting resistance to increasingly unfair labor practices by large landowners. It is believed that the spread of agrarian wage labor continuously erodes patron-client ties (Blackwood 1997: 278). The class position describes the network as a class system of elites, clients and servant families. In such a system “[p]eople of disparate status, wealth, and power are vertically integrated below patrons who in turn may be clients of patrons at higher levels (Scott 1972: 91-92; Wolf 1966a)” (Michie 1981: 23). Similarly, Blackwood describes the peasant community of Taram in West Sumatra based on kinship ties (Blackwood 1997).

These scholars agree upon the shared structural features of various networks, like “hereditary ties between families, mutual trust, confidence, mutual expectations, community support of values, and the conception of a moral bond” (Michie 1981: 24). Hereby to minimize the overwhelming terminologies and notions, scholars adopt the term ‘patron-client network’. When they talk about patron-client network, they describe any type of relationship based on reciprocity. For some other scholars, often patron-clientism implies economically and politically valuable and calculated relations (Mitchell 2006: 416-7). From this angle, a patron-client formation consists of “networks of dyadic relations centered on power figures, the patrons, who control resources essential to the survival and well-being of dependent groups, the clients” (Michie 1981: 23).

To frame my theoretical approach, however, I do not limit only to rational calculation of relations and to division between state and non-state actors, but rather suggest that agricultural actors interact along their personal networks. The personal networks of kinsmen, neighbors, peers, colleagues and so on shape loyalty, clientelism and tenancy as the main attributes and incentives of interactions among the agricultural actors, including farmers, their local and state mediators and international development organizations. In part, the formal institutions of the state and the development programs of the international community serve as patronage structures and resources of the personal networks. Similarly, the networks shape the dominant patterns of generation and transfer of the certain types of agricultural knowledge, for example, of how to prepare land, of where to purchase seeds, or of how much fertilizers to apply and when. The involved actors sustain these patterns which in turn favor the masters (farmers and mediators) of cotton economy.

Without considering the interrelations between the local and external (e.g., state and international) sources of knowledge, however, some scholars (Evers and Wall 2006; Antweiler 1998; Wall 2008) are inclined to distinguish between the two. Accordingly, local knowledge is “locally and culturally situated knowledge that was and still is produced in local communities” (Antweiler 1998: 490). This belief leads international development agencies wish to bypass and

exclude state actors and institutions, by reducing their programs to the sources and bearers of 'local knowledge'.

In the case of Uzbekistan, Wall (2008: 136-7) argues that local agricultural masters (including experienced peasants and farmers) practice horizontal sharing of knowledge about subsistence economy and adaptation to local conditions. In this sense, a village community may shape a horizontal 'knowledge network' where the masters serve as central nodes or as 'knowledge brokers' which connect between individuals. Wall considers that the masters offer their agricultural knowledge without economic benefit or political loyalty in return. He explains the increasing inequality in transfer and exchange of agricultural knowledge due to some actors exploiting others, rather than the local 'knowledge networks'. Since the Soviet time the state actors have excluded the local masters or traditional 'knowledge brokers' from the generation and exchange of agricultural knowledge. He introduces the notion of 'knowledge control' to suggest that the Uzbek state endures the Soviet-created 'closed system of knowledge' not only to 'control over the economy and agricultural production but also to legitimate its political exercises' (Ibid. 5, 24, 261-70). This centralized control or 'hegemonic power' of the state, he argues, is the source of the generation and exchange of agricultural knowledge while it reduces the role of both state universities and local masters in the creation of new types of knowledge.

To explain other types of the existing local knowledge and the deviances from the state control, Wall (2008: 16, 23) refers to such notions as 'coping strategies', 'cooptation' and 'knowledge loss'. For example, 'coping strategy' is social knowledge of the farmers to avoid certain aspects of government regulations. Or 'knowledge loss' is related to the important actors who either abandon certain types of knowledge or are not able to transfer their knowledge to others (Long 1992; Gerke and Ehlert 2009).

This actor-oriented or state-centrist approach necessarily contrasts between local types and imported (e.g., state-run) types of agricultural knowledge. The state actors and structures are regarded as external to local communities. Therefore, the proponents argue that the empowerment of the local masters extends their role as 'knowledge brokers', an advisory role they fulfill in their communities (Wall 2008: 129; Evers and Wall 2006). They are believed to locate their possessed types of agricultural knowledge beyond the effects of power relations. Rather they distribute their knowledge and experience through horizontal line to any members of their communities regardless of the recipients' statuses and positions.

3 Local masters and networks of agricultural knowledge in the cotton sector

The division based on the local and imported (such as instructive and expert) knowledge systems, however, do not fully explain the interrelations of the actors and institutions at various (local, provincial, national and international) levels. As this study in the cotton-growing communities shows, the local masters are not powerless or neutral actors, but rather act in favor of the central state elites. They mediate between the elites and the ordinary people via offering some agricultural knowledge to the latter about subsistence economy, for example, about soil, seeds and fertilizers. There is a necessary connection between the production of any type of knowledge and the exercise of any type of power. Agricultural knowledge is utilized only when it is integrated with other types of knowledge, such as experiences and strategies of developing and maintaining kinship, religious and patron-client relations through cotton farms.

Such interrelation of power and knowledge, therefore, elevates the successful masters into the clients and the mediators of the cotton elites. To use the local networks for the benefit of some important activities, especially cotton economy, the elites rely on the local masters, including trained agricultural specialists (agronomists), *brigadirs*, construction and ceremonial masters (*usto*⁵), state employees (bureaucrats, teachers and doctors), family seniors, religious notables (*hoji* or pilgrim, *eshon*) and reputable women. In the Sayyod village – a cotton-growing settlement of about 4,500 people in Shahritus district – where I have been conducting anthropological research since 2007, the key masters include *Usto* Shams (gardener, lemon-grower, master of grain seeds, seedlings and flowers, carpenter), *Usto* Nazar (bee-keeper, potato-grower, carpenter, construction master), *Qamar-brigadir* (*brigadir* since the Soviet Union), *Hoji-Quli* (religious pilgrim), *Polon-aka* (agronomist and extended family senior), *ShU* (female *brigadir* since the Soviet Union) as well as the trained agronomists including Safar Rahimov, Normat Shoev, Kholmurod Juraev and Haydar Ghulomov.⁶

Often the masters represent and lead their extended families, *qawms* (descent or ethnic groups), neighbors and religious circles through local state and traditional structures, like *jamoat*,⁷ *mahalla* and mosques. This is especially necessary to sustain cotton-growing farms and *brigadas*⁸ out of the individual extended families, neighborhoods and *qawms*. Since agricultural experts (such as ‘experienced’ peasants, former *brigadirs* and trained agronomists) cannot always represent their solidarity ‘groups’ or the members of their cotton farms, therefore, other nonagricultural ‘masters’, like family seniors, *hojis* (religious pilgrims), teachers, doctors, state bureaucrats and reputable women also run cotton farms (see Table 1). For this reason agricultural mastership is not always determinant and male-dominated, as Wall (2008: 99) observes in the case of Uzbekistan. There are also publicly acknowledged female masters who mobilize the majority of the female laborers in cotton-growing farms.

⁵ *Usto* literally means ‘master’.

⁶ The names are anonymous.

⁷ *Jamoat* is the sub-district local government structure which unifies several rural settlements.

⁸ *Brigada* is Russian word for the working teams of the Soviet kolkhoz as well as of the current collective farms.

Table 1: Professions and personal networks of the farmers: some examples

Farmer	Profession	Network
Kholmatov Panjshanbe	Tractor driver	His brother is an agronomist; he belongs to patron-client network of the cotton elites
Rahimov Nazar	Agronomist	His father is chief agronomist of the district
Shoista Mahmudova	The secretary of the Collective Farm	Patron-client network (cotton elites), belongs to dominant ethnicity which shapes local cotton elites
Salom Kajoev	Welder	Belongs to dominant ethnicity which shapes local cotton elites
Sharipova Munira	The head of the Women Council of the Collective Farm	Patron-client network with the cotton elites
Muhiba Alieva	The cooker of the village school	The status to mobilize female workers from her extended family and neighborhood
Tuhfa Eshmatova	The secretary of the District Government	Patron-client network with the cotton elites
Latifa Mamadrajabova	<i>Brigadir</i> (head of <i>brigada</i>) of Kolkhoz	The status to mobilize female workers from her extended family
Yusuf Muminjonov	Railway worker	The status to mobilize workers from his extended family
Ravshan Mirzoev	Bus driver	Sister is involved in the patron-client network of the cotton elites; the status to mobilize the workers from his extended family
Rafiq Kholmurodov	Labor migrant	The status to mobilize workers from his extended family
Kholmat Toshev	Driver	The status to mobilize workers from his extended family
Zafar Hamidov	Kolkhoz worker	The status to mobilize workers from his extended family
Sharifmo Mahmudova	Kolkhoz worker	The status to mobilize female workers from his extended family
Rasul Nazarov	Business man	Belongs to patron-client network of the cotton elites
<i>Hoji</i> Ghulomboy	Both the religious pilgrim and the former <i>kolkhozi</i> elite	Belongs to patron-client network of the cotton elites through the family network of the Cotton Hero; the most reputable senior of Uzbek families and <i>qawm</i> in the village
SQ	<i>Brigadir</i> (head of the Collective Farm 'Sayyod')	Belongs to patron-client network of the cotton elites through the ruling President's People Democratic Party; District People Deputy
ShU	Female <i>brigadir</i>	Belongs to patron-client network of the cotton elites through the inclusion in the list of District Governor, Provincial Governor and the President as an honored female farmer of the cotton sector

The main quality of the agricultural masters is not purely their professional knowledge. Rather, they have ability or 'experience' to use their or others' agricultural knowledge to maintain the existing power relations among the local population. Hence, mastership characterizes both the possession of indigenous and professional knowledge of agriculture and especially the ability and

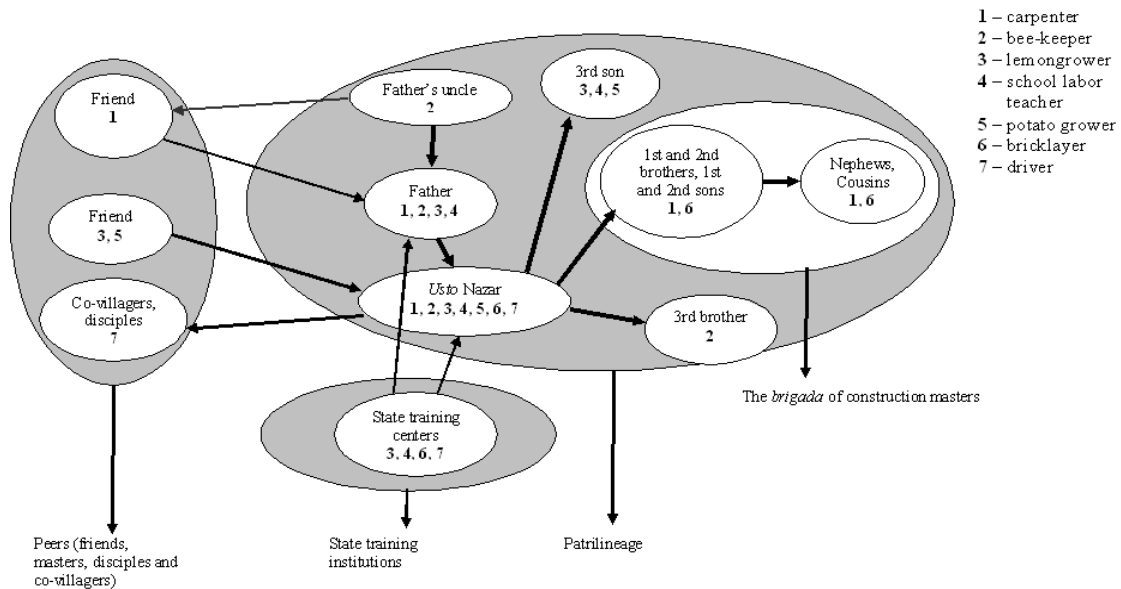
status to shape solidarity of the local people for economic and political practices and structures. Such qualities are generally defined by the local idioms as 'experience' (*tajriba*) while the masters are, thus, called 'experienced' (*tajribador*).

These 'experienced' masters run cotton farms in order to mobilize manpower for heavy but underpaid work (Boboyorov 2011). According to the local idioms and practices, 'experience' as the main quality of professional knowledge and practice, is acquired and transferred mainly through inheritance patterns and partly through religious and seasonal ceremonies. The 'experience' is, thus, sanctified and inherited knowledge of agriculture and especially powerful status of the farmers in their kinship, descent, patron-client and other networks.

Personal networks, including patrilineal kinsmen, are the main sources through which the agricultural masters acquire their knowledge and experience. The members of certain patrilineal, peer and patron-client networks have the chance to take direct and intensive training and to gain experience in important economic professions and political positions. Also these networks reserve and transfer much agricultural knowledge and certain professions (e.g., agronomy, veterinary medicine, land registration and bureaucratic positions) introduced during and since the Soviet period. In the local idioms this practice is recognized as 'backing' (*pusht*) which legitimizes the privileged access of the heirs. Certain masters, who have no inheritance status or personal relations, cannot obtain proper reputation and success regardless of their professional training.

Usto Nazar and his patrilineal kinsmen (junior brothers, sons, nephews and cousins) are among the most successful construction *brigada*, carpenters, bee-keepers, lemon-growers and potato growers in Sayyod village. *Usto* Nazar learned the professions from his grandfather, peers and colleagues and then transferred them mainly to his family members (see Figure 1). Similarly, *Usto* Shams is a local master of seeds, seedlings and construction who has inherited his skills from his father while at the same time transfers them to his sons. The other four construction *brigadas*, and many single-workers, use construction works only as an additional source of income. They mainly work for their co-villagers and only rarely find customers in Shahritus town. In contrast to superior status of *Usto*, which ensures prestigious and profitable professions, others are categorized as 'black worker' (*mardikor*) or 'unprofessional worker' (*raznarabochii*). Less people trust and therefore hire the single workers for decent money.

Table 2: The networks of professional inheritance and knowledge exchange of *Usto* Nazar



Religious ceremonies serve to allow and sanctify inheritance status and the practices of ‘experience’ and ‘backing’, in part, of the masters to strategic resources and professions, like land, water, garden, shrine, mosque and religious practices. In recent years *khatm*⁹ is an increasingly practiced ceremony by patrilineal members, during which religious notables, elders and other respectful men acknowledge and celebrate inherited professions. Similarly, we also observe an increase in the creation and reinvention of the *Shajaranoma* (genealogical book), which describes the legitimate line of inheritance of strategic properties and skills by patrilineal groups (Boboyorov 2011).

Beyond personal networks the masters in Sayyod village share only limited types of agricultural knowledge, mainly about subsistence economy. In cotton-growing communities the recipients of such knowledge are loyal workers of cotton farms. The religious and seasonal ceremonies serve as the settings to share the masters’ ‘experience’ and to express the workers’ indebtedness. The loyal workers gather in such ceremonies and, therefore, have access to the masters’ agricultural knowledge and experience.

Besides such limited agricultural knowledge for the loyal cotton workers, the ‘experienced’ masters also use these settings to devote their ‘experience’ (knowledge and personal ties) to impede the actualization of professional and legal knowledge of the ordinary people. Through these ceremonies the masters stigmatize the disloyal people for their ‘improper’ search for legal rules to achieve their claims without relying on proper personal relations. Here the main concern

⁹ *Khatm* literally means ‘to finish reading’ Koran as a sacred practice; but in this context the term means to celebrate a sacred practice, claim or right and hereby to seek public acknowledgement.

is to balance the existing political and economic relations which favor the cotton economy. The masters and other mediators reduce the cotton farms and *brigadas* to especially kinsmen, neighbors and descent groups in order to supply enough manpower. Thus, many smallholders informed that first of all their notables and elders have prevented them from establishing and running their family farms.

Likewise, the ceremonies are effective settings to stigmatize the 'strangers', i.e. those who protest against inequality and hierarchy caused by the cotton economy. The 'strangers' refer to a variety of the frequently reinvented discourses about people who are not loyal to *qawm* (kinship, descent or ethnic) networks and the related cotton farms. Notably, the reference to *qawm* imagines *qawm* bonds among both related and unrelated workers and hereby shapes their solidarity and mobilizes them for cotton growing activities. Such reference reinvents shared kinship, descent, ethnic or religious history for often mixed and also unrelated *qawm* co-members. In fact, the cotton workers are not always related by *qawm* line while kinship ties are not limited to distinctive *qawms* (Boboyorov 2011).

In such a context the stability of the contested political and economic relations is the main concern of the cotton elites and their cliental farmers, that is, agricultural masters, elders and religious notables. The political and economic stability of Sayyod village's cotton-growing farms depends mainly upon two 'experienced' masters – SQ and ShU. Since the Soviet Union they have been involved in the patron-client networks of the key players of the local cotton economy, including networks with central, provincial and district state representatives. They have regularly received material and symbolic gifts, including the highly respectful Lenin medal during the Communist regime, which specifically mentions their loyalty to the cotton elites. They have gained their cliental status in return for their ability to mobilize cotton workers through their patrilineal, descent and ethnic networks. In return, the highly valued cliental status of the masters, which they regard as their own family and *qawm* honor, shapes a strong affective commitment of the cotton workers.

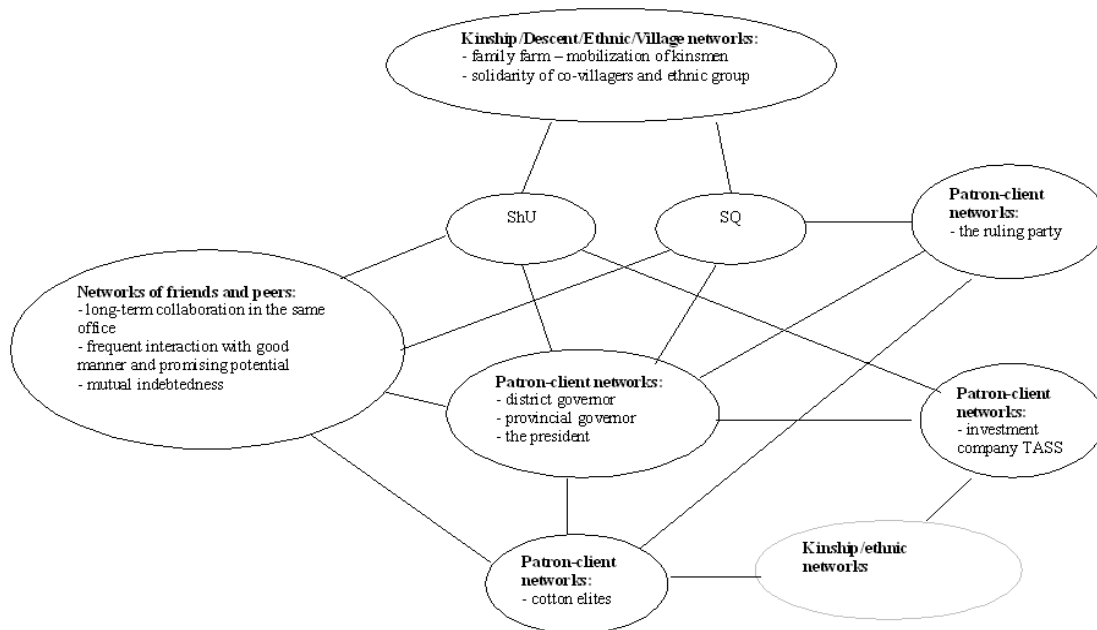
The mediators of cotton elites, who are the former managers of the 'Soviet kolkhoz' named after Lomonosov, are aware of this status of the masters to mobilize the cotton workers through highlighting their group honor and identity. These mediators include the 'Hero of Socialist Work', the holder of one of the most honored titles during the Soviet Union, and his kinsmen who enjoy personal ties with the state elites of cotton sector, including Tajikistan's current President. Due to his life-long leadership of the 'Soviet kolkhoz,' the Cotton Hero and his family have developed kinship and patron-client ties with the local masters, including the two most important, SQ and ShU. These relations maintain frequent interactions, trust and indebtedness among them (see Figure 2).

The President appoints the district governors for short term periods and the investment companies of the cotton sector do not function at the district level, thus leaving a role for the Cotton Hero and his family who serve to mediate between them and the local masters. Such mediation is important especially to continuously involve SQ and ShU in the patron-client network of the cotton elites, including the district and provincial governors, the managers of the investment ('futurist') company TASS¹⁰ and the President. These cotton elites award their cliental

¹⁰ TASS, the investment or 'futurist' company in the western districts of Khatlon province, including Shahritus, Qabodiyon and Nosiri Khusrav districts of Qabodiyon oasis, own the key cotton enterprises,

farmers material and symbolic means, such as land, tax exemptions, debt freezing and luxury and honorable gifts. In part, the inclusion of ShU in the President’s and Governors’ lists of active women and the membership of SQ in the President’s People Democratic Party are examples of such patronage favors and gifts.

Table 3: Personal networks of two key masters in Sayyod village



including cotton collection stations, cotton plants and MTC (agricultural machines stations). TASS manages cotton-related assets, including most irrigated land resources, and allocate them for cotton sector.

4 The patron-client priorities for professional services in the cotton sector

The investment ('futurist') company TASS in Qurghonteppa region of Khatlon province monopolizes the local and international markets of raw cotton produced in Qabodiyon oasis. The managers of the company have personal (kinship and patron-client) relations to central and local state elites (International Crisis Group 2005: 5; SOAS 2010: 5). The central state elites keep close ties with their 'trusted representatives', including local state officials, the managers of cotton investment companies and religious saints (*eshons*, i.e. regional leaders of Sufi orders). In return, the 'trusted representatives' mediate to protect the political and economic interests of the elites (Boboyorov 2011). Thus, the state elites and the managers of TASS guarantee the privileged (re-)distribution of agricultural resources and knowledge to those farmers who are loyal to cotton economy. SOAS (2010: 24) defines such exercises as 'arbitrary re-distribution' in which the elites favor the privileged access of their families, friends and those who offer bribes.

In the Shahritus district the cotton elites, including the managers of the investment company TASS and their official mediators in the local government lead the agricultural experts (including agronomists and bureaucrats) to serve their cliental farmers. The farmers need to display their loyalty to the cotton economy in order to relieve bureaucratic, legal and taxation procedures through state offices. The professional consultations, which are mainly provided at the beginning of the sowing season, inform about the technical properties of cotton growing. On other occasions again in return for loyalty to the cotton economy the agricultural experts consult farmers and gardeners about their new seeds, crops and gardens (Qamar-*brigadir*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13; *Usto* Shams. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 11). The farmers and *brigadirs*, including female leaders of the female laborers, are rewarded land plots or gardens in return for their loyalty to organize and run cotton farms and teams of cotton growers. Again the farmers and *brigadirs*, who have no proper knowledge, need professional services of their kinsmen and peers to use the rewarded properties (Muhiba Alieva. 2012. Interviewed by Hafiz Boboyorov. Shahritus District, February 15).

TASS negatively affects the professionalization of agricultural sector by monopolizing the provision of seeds, agricultural machines, fuel and fertilizers as well as by supervising credits and banks. The TASS managers also decide about types of seeds, crops, agricultural machines, quotas for cotton, size of fertilizers and prices for inputs and outputs (SOAS 2010: 29; International Crisis Group 2005). The agricultural specialists of the district agricultural department mainly provide consultations for the cliental cotton-growing farmers of TASS. Their consultations have basically instructive character on the behalf of TASS. Among them, for example, the chief district agronomist supervises and monitors TASS 'extension services', especially the provision of seeds, fertilizers, fuel and agricultural machines. During the sowing season, he checks the monopolized distribution of cotton seeds by the TASS-run cotton plant. Being the exclusive distributor of cotton seeds, TASS restricts the development and extension of professional knowledge about new types of seeds (Qamar-*brigadir*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13; Haydar Ghulomov. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12; SQ. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13). The Tajik government does acknowledge that the monopoly of seed distribution is the main factor which "leads to a mixing of

seed varieties and qualities, resulting in uneven staple lengths” (Government of Tajikistan 2007: 8).

TASS does not allow the individual farms to find other sources to obtain seeds, agricultural machines and fertilizers. Without personal networks with this monopolizing supplier farmers cannot even sell their raw cotton to the cotton plant. TASS fixes the amount and price of seeds, fertilizer and fuel and provides nonstandard agricultural machines which significantly reduce the productivity of crops. According to veteran farmers, one hectare of cotton field needs 500-600 kilograms of fertilizer in order to produce a decent harvest. However, again TASS provides very expensive and limited quantities of fertilizer – 200-250 kilograms per hectare (ShU. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 14; *Qamar-brigadir*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District, February 13).

The standard model of sowing tractor called ‘Altay’ (Tractor-75), which ploughs deeper than other models, is rare and privately owned by a few farmers. The largest Collective Farm ‘Sayyod’,¹¹ which consists of 128 hectares of cotton and grain fields as well as gardens, has only one seed-sowing tractor and one fertilizer tractor. For the majority of the farms the TASS-supervised MTC (Agricultural Machines and Tractors Station) provides only tractors of 28 and 40 models. While ‘Altay’ ploughs 50 cm of the soil, the nonstandard and low-power models can reach only 25-30 cm depth. This is one of the main reasons for the low harvest of cotton. TASS also fixes high prices for fuel which again forces the farmers to use the nonstandard and low-power models.

Likewise, TASS monopolizes agricultural machines and distributes them in return for the personal loyalty of farmers. The village-level Collective Farm ‘Sayyod’ was established in the aftermath of the division of the *Jamoat*-level collective farm in 2009. The *brigadirs* or the leaders of family teams wanted to run their private farms but without tractors they could not sow their fields until March, which is the end of the sowing season. For this reason, the head of the collective farm, who is the honored *brigadir* of cotton work since the Soviet Union and the female *brigadir*, the cotton activist member of the presidential party (ShU) went to the district governor. The governor personally asked the TASS manager, who the next day sent 10 tractors which sowed the collective farm’s cotton fields within two days. This visit, which expressed personal loyalty of the masters of the cotton economy to the elites, was decisive to renew the informal commitment between the collective farm and TASS.

The overemphasis on the cotton economy also restricts the extension services and activities of the seed-growing collective farm ‘Sayyod’. It does not benefit from the expert services and privileged taxation legally assigned for the seed-growing farms. To supply high-quality seeds to the district cotton farms, TASS, the cotton plant and individual farms must pay the expenses for expertise and the infrastructure of seed production. However, TASS assigns the role of the collective farm ‘Sayyod’ as cotton production unit, while transferring its seed production function to the cotton-

¹¹ The Collective Farm of Sayyod village was established in the aftermath of the abolition of the Collective Farm of Sayyod *Jamoat* in 2009. Currently the Collective Farm is subject to *Jamoat* of Sayyod and employs 126 stakeholders from Sayyod village. It has 60 hectares of cotton field, 46 hectares of grain field, 19 hectares of new gardens and 3 hectares of old garden. The Farm has 13 family-based brigadas under the authority of SQ, its head. (SQ (Head of the Collective Farm). 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13; *Qamar-brigadir* (Chief Agronomist of the Collective Farm). 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13)

cleaning plant and hereby excluding other stages of seed production, including laboratory and field experimentation of the alternative options.

Only rarely do the professional enterprises of seed production provide their services due to their privileged position in the patron-client network which dominates various levels of the state institutions. The seed-growing farm 'Avesto' based in Qabodiyon district sustains for instance its profitable economic activities due to the personal relation of its leader to the Tajik president and TASS managers. It is a private farm specialized in different agricultural aspects, including cotton-growing, cotton seed production and fishery. The farm hires agricultural specialists from the Academy of Agriculture of Tajikistan. Nevertheless, its recently introduced type of cotton seed called 'Avesto-96' has found limited extension. It is despite the fact that, as the chief agronomist of the collective farm 'Sayyod' asserts, this new seed provides 3.8-4 tones of cotton per hectare. 100 kilograms of raw cotton provides 2 per cent of fluff and 38-40 per cent of fiber. By comparison the old cotton seeds provided 2 per cent of fluff and 33 per cent of fiber (Qamar-*brigadir*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13).

To increase agricultural productivity in the face of diminishing extension services and increasing risks due to climate change, local masters and state experts of the cotton sector see the solution in the abundance of manpower, land resources, seeds, fertilizers and fuel. Hence, they sow excessive cotton seeds – 60-80 kilograms of seeds per hectare instead of the standard 25-50 kilograms – in order to insure against the low-quality seeds, soil salinity and climatic uncertainty. Rather, the managers of the cotton sector are concerned with controlling the quantity of fertilizers, water and seeds as well as with their application techniques and periods. Monitoring the ability of the *brigadirs* and female mediators to mobilize ordinary workers is another important task of these specialists (Ibid.). An 'experienced' and heroic farmer affirmed this point, stating that "cotton benefits from the presence of its lord and workers. Women [female workers] must be inside [the field]. Regardless if there are weeds to clean or not, if there is need for field work or not, their presence stimulates the growth of cotton stalk and yield" (ShU. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 14). According to such a dominant mindset, 'honest work' therefore means hard, intensive and time-consuming engagement and hence physical presence in cotton fields, especially from the side of women. The physical presence limits the workers' opportunities for other economic activities and thus predicts their long-term loyalty to the farmers.

Despite the legal status of the *dehqan* farms¹² as independent shareholder (*sahmdori*) enterprises, TASS utilizes a variety of informal, particularly patron-client, means to subjugate them: monopoly of cotton economy, debt system, and bureaucratic procedures. As discussed above, the monopoly of seeds, crops, land resources, irrigation infrastructure and of the markets of raw cotton is an important means. The debt system allows to enforce personal indebtedness of the cotton farmers to their 'investors' while the latter have privileged access to state and international financial reserves (SOAS 2010: 25). In turn, this condition does not allow the individual farms to pay off their accumulated debt due to the monopolized crop. As the accountant of the collective farm 'Sayyod' told, "The debt of the collective farm 'Sayyod' from 2009 until today constitutes 126 thousand Somoni.¹³ It is only the debt for land resources. TASS [the investment company] is interested in keeping the debt so that we could not release from it. The state froze our pre-2009

¹² 'Dehqan' is Tajik word meaning 'peasant'; here it refers to 'agricultural'.

¹³ TJ Somoni is the national currency of Tajikistan. Currently 1 TJ Somoni is equal to 0.21 US Dollar.

debt which we must repay only when our farm starts making a profit from economic activities” (Qamar-brigadir. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13). According to SOAS, referring to the official estimation of the World Bank, the frozen debt of the cotton farms throughout the country was 553 million USD at the end of 2008 (SOAS 2010: 25).

The Cotton Sector Recovery Project of the Tajik government and the World Bank admits that in recent years the debt situation in the cotton sector has led to the perception and practice that “debts would be directly attached to land parcels and that, therefore, farmers in accepting land parcels would therefore also be accepting personal responsibility for previous debts” (Government of Tajikistan 2007: 11). Therefore, the World Bank-initiated project, which was adopted in the early 2007 by the government, seeks debt resolution through “delinking” the farmers from the investment companies and integrating them into the free market (Ibid. 18).

The other effective means to subjugate the farmers and thus to favor personal relations are the bureaucratic procedures of statistical reporting, accountancy and tax payment. Such state and bank procedures are performed through the patron-client relations farmers have with the cotton elites. When they do not have direct patron-client ties, farmers use their kinsmen and peers to reach and negotiate with the cotton elites. Despite the increased transaction costs according to economic calculations, the farmers prefer to show their loyalty by their personal involvement in the procedures. As many farmers expressed, infrequent personal interaction is undesirable since such ‘behavior’ causes distrust of the patrons.

Personal relations also affect the accountancy and taxation practices of farmers. According to the state regulation, *dehqan* farms should pay unified tax directly in the nearest office of any state bank (Government of Tajikistan 2011: 31-2). Ideally this regulation should reduce transaction costs and develop impersonal relations. In fact, neither farmers nor the state officials are interested in obeying this newly introduced regulation but rather they modify it through their networks. Hence, personal, especially patron-client, relations are more important to fix taxes and to arrange bureaucratic procedures of tax payment. “There is a unified tax per hectare for the *dehqan* farm. You pay it to the Tax Department through the bank. But the tax collectors come each quarter and demand the new receipt. While the bank’s receipt is valid only for three months, therefore, you have to find or bribe somebody in order to get it every time” (Normat Shoev. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12). For this purpose, often the farmers use their personal relations with TASS managers and other elites to access the bank services.

5 Adaptation of the agricultural extension services into local networks

Today the general condition of agricultural activities, especially the professional maintenance of economic structures, knowledge and technical services, continue to worsen. Since Tajikistan's independence in 1991 the centralized professional services for the maintenance and improvement of soil, seeds and other agricultural technologies have been substantially restricted. The sub-district state organization *jamoat*, which substituted the *kolkhoz*, employs only bureaucrats like public representatives, police officers, tax collectors and land-surveyors. The professional experts of agriculture (such as agronomists and vets) are less employed by district agricultural departments but rather mainly by private farms and local and international NGOs.

Since the mid-1990s international donor organizations have implemented aid and development programs in different regions of Tajikistan, including the south-western districts of Qabodiyon oasis. Donor organizations have also gradually changed their priorities from humanitarian aid to community driven development and agricultural extension services. Currently many local NGOs represent and implement the agricultural extension service programs of international state and non-state donor organizations. The active organizations in Qabodiyon oasis are UNDP Shahritus Area Office, Mercy Corps, GIZ, World Bank and others, which provide agricultural extension services through local NGOs.

According to the representatives and experts of some local NGOs, such agricultural extension services have primarily been dedicated to poverty reduction by focusing their support towards the poor segments of the population. "We do not work with the cotton farms because cotton does not give anything to the people. We work for food security", affirmed an agricultural expert of Mercy Corps (Ibid.). However, the extension services of the local NGOs have rarely reached the poor. This is first of all due to the limited material and financial capacities of the poor families who therefore do not meet the criteria for participation in the relevant programs. Often the extension services are provided in the form of microcredit which should be paid back at the end of each financial year. While being unable to meet this requirement, the poor families prefer to use the limited services of their kinsmen, friends and patrons. As some implemented programs for the poor families have also faced difficulties due to their low economic capacities, the experts relate the 'failure' due to the 'main quality' of the poor which is 'laziness'. According to one of the local experts of extension service NGO Shifo, "I have found out that poverty is due to laziness: our organization supplies seeds and fertilizers as credit and without interest rate. But we get back the credit with a lot of troubles" (Haydar Ghulomov. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12).

The other crucial factor that has not been taken into consideration for the 'lazy' poor is their limited agricultural capacities related to land resources, bureaucratic services and state economic policy. The extension services of the development organizations, however, serve the powerful farmers through their dominated settings. The services range from extension of new seeds, techniques and experiments to the distribution of expert advice through trainings and information media. Many local branches of the INGOs and local NGOs, such as Mercy Corps, Shifo, Arbitrazh, Chashma, Bonuvoni Fardo and Association of *Dehqan* Farms 'Subhi Sayyod' offer their services exclusively to cotton farms.

The dominant networks of the local population impact on the way extension services are received and utilized. Gradually the networks of kinsmen, peers and patron-clients shape the beneficiaries of the extension service programs. This is first of all due to the involvement of TASS which leads the experts of the local state departments and NGOs to serve its clients, i.e. the loyal cotton farmers. For the same purpose the agricultural department of the district government mediates among TASS clients and the extension programs (Ibid.). After the extension programs 'failed' to serve the poor, now most of the local NGOs, including GIZ-funded 'Shifo' and the World Bank-funded 'Chashma', provide microcredit in the forms of seeds of different crops (grain, potato, onion, etc.) and high-quality fertilizers. These microcredit programs also hire agricultural specialists who share expert knowledge about the properties of the new seeds.

The setting and the audience sharing expert knowledge are also important factors that limit the wider distribution of extension services. Extension trainings are mainly accessible to farmers due to the fact that they are the stakeholders of the extension service programs (Ibid.). Because the patron-client relation to the cotton elites plays a key role in the selection of farmers, who receive extension services, therefore, it follows that extension services favor the loyal clients of the cotton industry.

Consequently, distribution of expert knowledge about new seeds, for example, serves as a cliental favor for the farmers and as a power resource in the hand of the cotton elites. Obviously such knowledge-based power relations, which especially sustain the monopoly of elites over the cotton economy, inevitably reduce the access of the majority to expert knowledge. Farm leadership becomes a necessary condition for access to the settings, like trainings and field visits by experts, in which expert knowledge is shared. The experts often visit non-household fields which in most cases are owned by the cliental farmers of the cotton elites. The smallholders either have their land plots attached to their house yards (so-called *tamarqa*) or use their stakeholder (*sahmdori*) land plots on the basis of tenancy relations with the farmers. An agricultural expert expressed the situation in this way: "They [the farmers] say that 10-*sotikha*¹⁴ [tenancy land plot which is up to 0.1 hectare] is for salary. But it is out of their [the workers'] stakeholder rights. Maybe they have the right to 0.2 or 0.3 hectares" (Normat Shuev. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12). Hence, the experts cannot reach the ordinary people who have no actual (management) right to the land they visit.

This means that the smallholders and tenants are not aware about the properties of new seeds and thus if they use them they need to consult with their farmers. The advice is served in return for their loyalty to tenancy and cotton monoculture upon the land for which formally they have full (*sahmdori*) right. The agricultural consultation is thus provided 'on-site' which means between landlord (cotton farmer) and tenant (cotton worker) as a part of their kinship, neighborhood, ethnic and other personal relations. The consultation is again limited to kinsmen, neighbors and sometimes to the members of descent groups, mobilized by cotton farmers for work in their cotton fields.

¹⁴ '10-*sotikha*' (1/10 part of cotton field) was practiced since the Soviet time as a technical measure for leaving idle parts of cotton fields by sowing less intensive crops including wheat and maize. Since 1996-1997 the state authorities modified '10-*sotikha*' as a measure for wheat production and food security and also as in-kind payment of salaries of the subordinate workers of cotton farms (Haydar Ghulomov. 2008. Interviewed by Hafiz Boboyorov. Shahritus District. March 10).

If and when ordinary farmers take the risk to sow new seeds with insufficient knowledge, there is a great chance they will harvest a reduced yield. The risk is very high since imported seeds require special techniques of cultivation and irrigation to adapt to new conditions (Kholmurod Juraev. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 15). Ultimately, ignorant farmers produce a low harvest or even no profit from the new seeds. While farmers have an improved harvest from using the new seeds, others often have sad stories to tell due to their misapplication. Many ordinary farmers mentioned the unsuccessful experiences with new seeds of, for example, grain and water melon. The nonprofessional names of the seeds, such as the wheat grain called '*Tanya*' (female name in Russian) and water melon called '*Amerikanka*' (literally: 'American girl'), also indicate that ordinary peasants and smallholders have poor access to the relevant technical knowledge. Often they express general distrust towards any new seeds or believe that the new seeds can only be grown using a great amount of resources, including water and fertilizers. "We are using *Amerikanka* for the past 3-4 years but we do not know the origin of the seed. The ripe fruit spoils within 10-12 days because it does not have a strong peel. We used to have local water melons such as *Astrakhan*, *Alatarbuz* and black water melon which weighed up to 68 kilograms and which could be kept for a long time and in cold weather" (*Usto Shams*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 11).

NGOs, which have only been operating for a few years and thus understand little the implications of their operations, shape the information and technical infrastructure for the provision of extension services. In Qabodiyon oasis the NGO Shifo implements the GIZ-funded technical assistance program of the NGO Sughdagroservis.

The NGO Sughdagroservis functions in Sughd Province and offers a number of extension service programs. These programs include extension of high-quality fertilizers and new sorts of seeds, a 'suitcase of soil analysis', demonstrative land plots, a SMS service of agricultural advice and an expert newspaper for agricultural workers. Sughdagroservis delivers high-quality fertilizers and seeds of vegetables and grains from foreign countries (like the Netherlands) and distributes them in Sughd Province. The suitcase of soil analysis, which was brought from Germany, is a mobile mini-laboratory to check the quality and composition of soil. A demonstrative land plot of about 0.05 hectare is hired from the individual farmers by the experts of Sughdagroservis to grow the same crop as the farmers do. The experts demonstrate how the applied innovative knowledge improves the quality and the size of the demonstrative crop as compared to the farmer's crop.

NGO Shifo takes the initiative to extend the services, including a store of fertilizers and seeds, in Shahritus town for the peasants in Qabodiyon oasis. It has already introduced the SMS service in three districts of Qabodiyon oasis. As the local expert of this program (*Haydar Ghulomov*. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12) told, about 50 farmers have been subscribed to the SMS service. They receive information in their mobile telephones about the weather forecast, the agro-technical properties of crops, and crop diseases. The information and consultations are provided by the local agricultural specialists and the experts from the Agricultural University of Tajikistan. This NGO distributes about 300 copies of the newspaper '*Agroinform TJ*' published by Sughdagroservis which publishes information about weather forecast, prices of agricultural goods (like fuel, fertilizers, seeds, fruits, vegetables, dairies, meat, etc.) in local markets. Also the newspaper has

a special column where the 'peasants' ask their questions and the experts answer them.

As observed in the field, the kinship, peer and patron-client networks are also affecting the services provided through NGO Shifo, including the monthly newspaper *Agroinform TJ* and SMS agricultural information exchange service. As the local expert of the newspaper in Qabodiyon oasis told, the subscribers and readers of the newspaper are predominantly farmers who have the opportunity to frequently visit the NGO office for trainings and consultations. Also, the audience of the newspaper is mostly interested in legal and bureaucratic procedures and regulations of establishment and functioning of *dehqan* farms (Ibid.). The information about agricultural activities, such as daily weather forecast and technical properties of the seeds, which is shared through SMS medium, is less demanded. People cannot adjust the daily forecast of weather with their accustomed system of cyclic (seasonal and periodical) regularity in weather and climate change. Hence, not only the uneducated peasants but also the professional and experienced masters and farmers do not need a daily forecast of weather. The most knowledgeable masters prefer and apply the traditional calendar of seasonal and periodical change for growing seed varieties of vegetables and fruit seedlings (Usto Shams. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 11; SQ. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 13; ShU. 2012. Shahritus District. February 14).

The reciprocal and patron-client access to professional knowledge reduces the farmers' demand for market-oriented extension services. In most cases the experts of the SMS network offer their services free of charge and in return for their out-of-office rewards and privileges for such services. While this innovative and market-oriented service endangers the locally practiced exchanges, the experts are threatened to be stigmatized and ousted from their indigenous (kinship, peer and patron-client) networks. As the local expert of the SMS network in Qabodiyon oasis told, "Paid consultation is rare. Yesterday the farmers from Qabodiyon district asked me about some taxation procedures. I have offered the SMS service but they were upset that I become haughty and prefer two mouths of words over relations with them" (Haydar Ghulomov. 2012. Interviewed by Hafiz Boboyorov. Shahritus District. February 12). The expert has already refused to announce his name and phone number periodically in the *Agroinform TJ* newspaper, while he spends a lot of time for phone talk without any payment. Further, he expressed the situation as follows:

The post-civil war humanitarian aid spoiled the people's expectations. You visit them [to offer extension services], they expect you to work for them free of charge. They do not imagine that information costs money. By these services [newspaper and SMS subscriber networks] we try to accustom the farmers to pay for information. This is the only way that they start understanding the value of information, from one side. From the other side, when the donor leaves the country the service will not disappear if it is paid for. The prices of the services have a symbolic value and only cover the expenses or even do not: the newspaper costs 1 Somoni per copy and the SMS monthly subscription costs 30 Somoni.

Another important aspect of the extension services provided by the local NGOs and funded by their international donor organizations is to improve management skills and knowledge of the private farmers. Some trainings, newspaper columns and SMS packages inform the farmers about the formal (bureaucratic and legal) aspects of establishment of *dehqan* farms, accountancy, internal book-keeping, the regulations of taxation and statistical reporting, and so on (Ibid.). Again

kinship and patron-client networks considerably substitute the extension service NGOs which want to enforce formal arrangements. Despite the increased transaction costs, the farmers prefer to use their personal relations to arrange their bureaucratic, accountancy, reporting and taxation affairs. In these cases, personal relations demonstrate the loyalty of farmers to their patrons in the different state departments. From the perspective of statutory regulations, “Now many *dehqan* farms work chaotically: they do not have any book-keeping and accountancy and they do not have accountants and insurance systems” (Ibid.). Such ‘chaotic’ regulations are due to those farmers who seek their personal relations with the experts and specialists to manage their farms. Like many family-based farms, the largest collective farm ‘Sayyod’ has no professional accountant and book-keeper. Rather, SQ, the head of the farm, seeks his kinsmen and friends to arrange reporting, accountancy and taxation documents of fourteen subject family-based *brigadas*.

Similarly, such personal networks affect the efforts of the Association of *Dehqan* Farms ‘Subhi Sayyod’. Today about 50 private farmers are members of the Association who each pay 10 Somoni monthly membership fee. The managers of the Association wanted to set up the department of accountancy for the member farms. “According to the plan, the farms were expected to pay monthly 50 Somoni in return for the Association’s legal advices and support, and arrangement of their reporting, accountancy and taxation documents. But the farmers did not agree although they pay a higher price and spend a lot of time waiting behind the doors of state offices” (Ibid.). While the individual farmers prefer to wait behind the door of the elites to maintain their patron-client relations, the Association has gradually changed its own agenda. Today it serves the female clients of the cotton elites by providing agricultural trainings for them and publishing brochures and telling in the media about their heroic performances for the cotton economy.

6 Concluding remarks

This article has shown how the personal networks of people based on their kinship, patron-client and other ties shape political and economic structures in the cotton sector. Contrary to the dominant discourse, the article's perspective has reconsidered the prevailing role of the state and other important actors in this sector. The findings have emphasized that personal networks are important in the reproduction and distribution of agricultural knowledge systems. The affiliation of different actors, including local population, state elites and even the representatives of civil society, in the locally available personal networks shapes their choices and decisions. People gain political capital and professional knowledge by maintaining and creating endured ties with key actors at different levels through the networks they are affiliated to.

We have also observed that the stability of the cotton sector, which provides a miserable economic income to the majority of its laborers, depends on such local networks. Hence, the political role of the local masters (cotton farmers and mediators), rather than their agricultural knowledge, becomes more important to run cotton farms and to mobilize the required laborers. From this perspective, the bureaucratic, legal and professional knowledge and capacity of the agricultural actors depends upon their personal networks. These networks shape institutional rules and strategies for the reproduction and transfer of agricultural knowledge. The actors reduce the practices of horizontal sharing of knowledge while handling it as a power resource for maintaining their personal ties. The distribution of knowledge systems is based on the actors' personal situations in the existing networks. This means that the problems of knowledge governance are related to 'knowledge networks', rather than to some powerful actors, for instance state representatives.

The local masters also distribute some forms of agricultural knowledge to their laborers, thus indebting them to their cotton farms. These masters are not powerless or neutral actors, as some scholars suggest when talking about local or indigenous knowledge. Rather, such interrelations of power and knowledge elevate the successful masters into the cliental farmers or the mediators of the cotton elites. The elites rely on local religious notables, elders and agricultural masters to use their local networks for the benefit of the political structures of the cotton economy. Often the latter represent and lead their extended families, descent groups, neighborhoods and religious circles through local state and traditional structures. This is especially necessary to shape cotton-growing farms and *brigadas* out of these local networks. Since agricultural experts cannot always represent their solidarity 'groups', therefore, other nonagricultural specialists, like religious notables, family seniors and *qawm* elders, also run cotton farms.

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