INTERDISCIPLINARY STUDIES ON CENTRAL AND EASTERN EUROPE | 15

AGRICULTURAL KNOWLEDGE AND KNOWLEDGE SYSTEMS IN POST-SOVIET SOCIETIES

Anna-Katharina Hornidge,
Anastasiya Shtaltovna &
Conrad Schetter (eds)

PETER LANG

Anna-Katharina Hornidge, Anastasiya Shtaltovna and Conrad Schetter

Introduction: Independence, Transformation and the Search for a Future in Agriculture

Agricultural Knowledge and Knowledge Systems

Since independence in the early 1990s, the newly formed states of post-Soviet Central Asia and the Caucasus have taken different paths to reform their agricultural sectors – by placing emphasis on the cotton sector for export and wheat production to improve food security like Uzbekistan, by reviving former areas of specialization like wine production in Georgia or walnut production in Kyrgyzstan, or by reorganizing pastoral land use and livestock production in northern Tajikistan and Kyrgyzstan.

Summary of Challenges

Despite differences in the patterns of transition and restructuring in each country, all countries in post-Soviet Central Asia and the Caucasus face substantial challenges with regard to agricultural production (Shtaltovna and Hornidge, 2014):

- outdated expertise, including "brain-drains" abroad;
- worn out technical infrastructure, including irrigation and drainage systems;
- degrading quality of lands;
- price and quality competitiveness;
- lack of crop diversification;
- poor marketing and packaging of agricultural products;
- low quality of products;
- bureaucracy and corruption in state institutions;
- limited institutional capacity in agricultural sciences;
- outdated agricultural machinery;
- underdeveloped skills in private decision making on the farm level (due to the intrusive administrative-command system).

A gradual and controlled privatization of land took place in all post-Soviet states, leading to the replacement of the *kolkhoz-sovkhoz* structure. This resulted in a myriad of successor organizations and several types of farms and farmers.[1]

In Uzbekistan, for example, the large-scale collective farms (*kolkhozes* and *sovkhozes*) were succinctly subdivided into joint stock companies (*shirkats*) between 1991 and 1998. Between 1998 and 2003, these were then divided further into small, individual and family farms with a semiprivatized status under a continuing to exist state plan on cotton and wheat production (a production quota system with compulsory sale to the state at fixed prices) (Veldwisch, 2007; Trevisani, 2008; Hornidge *et al.*, 2011a, 2013; Shtaltovna *et al.*, 2014). Within several years, the sheer number of individual farmers multiplied, all with their own responsibility to fulfil state production quotas, their own interest in producing commercially attractive crops for private income generation and their requirements for water arriving through a state managed irrigation system.

The process of decollectivizing the land crucially modified interhuman relationships within the agricultural sector, as well as between agricultural producers, water management and other state organizations and private investors. As such it increasingly challenged the attached systems of land, water and market governance, while not keeping up with the changes in the production system itself. In reaction to these overburdening challenges, farm land under the cotton and wheat state plan was reconsolidated again, merging several individual farms enterprises (of 10–25 ha each) into bigger farms (of 75–150 ha) in 2008 and once more in 2009, resulting in farms of 180–230 ha (Djanibekov *et al.*, 2012; Eichholz *et al.*, 2012).

Similarly, agriculture played an important role in the Georgian economy, for many years representing the single most important sector in terms of its contribution to GDP and employment (Sommerville *et al.*, 2011). In 2015 – and due to a lack of investments since 1995 – it accounted for 9% of the GDP, ensuring 20–30% of the countries' food demand (before 1990 70%) (<http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries>, accessed 30 May 2015). Fifty-three per cent of the country's total population live in rural areas and of small, privatized farms with a mean land size of

1 A process that has been described in detail by authors such as Wegren (1989), Humphrey (1998), Kandiyoti (2002), Ioffe *et al.* (2006), Wall (2006, 2008a, 2008b), Trevisani (2007, 2008), Yalcin and Mollinga (2007), Veldwisch and Spoor (2008), Djanibekov *et al.* (2010), Hornidge *et al.* (2011b), Shtaltovna *et al.* (2012) and others.

0.95 ha (Shatberashvili, 2011). Consequently, the land is very fragmented with a preponderance of smallholders (Sommerville *et al.*, 2011). In an interview with Anastasiya Shtaltovna, the director of the formerly well known Soviet Scientific Federation (May 2013) confirms this by stating: "The agricultural sector has become synonymous with poverty or employer of last resort." Similar developments can be found in the agricultural restructuring processes in former eastern Germany, Romania, Kazakhstan and Russia, where small-sized farms have proven inappropriate and instead bigger agribusinesses, almost replicating socialist cooperatives, are taking over and successfully compete in world agricultural markets (Burawoy and Verdery, 1999; Kazbek, 2009; Singelmann, 2011; Szelenyi, 2011).

In summary, the agricultural sector continues to be of central importance for securing individual livelihoods in Central Asia, just as much as in the Caucasus, employing about half of the region's workforce. A high percentage of the population lives in rural areas. Total revenues from agriculture in the region constitute between a quarter and a third of annual national GDP. However, the development of the agrarian sector is very heterogeneous. Despite constant economic growth of the sector, overall production of staple crops is often not sufficient to satisfy national needs with high poverty levels, especially in the rural areas. Despite rapidly ongoing socio-economic processes of transformation, agriculture appears in many ways half-way between collective production Soviet style and new forms of individual farming.

This volume addresses the crucial role of knowledge and innovation in living with these socio-economic and political transformation processes – with a particular focus on the agricultural sector. Due to limited resources and widespread poverty, agriculture plays a central role in the systems of livelihood provision in all states of Central Asia and the Caucasus. Here, knowledge generation and the development of locally adapted agricultural innovations, which match the legal and financial "window of opportunity" of local farmers to innovate, is crucial (Röling, 2009). To guarantee local adaptability, these innovations have to be developed locally and through the incorporation of local expertise and tacit systems knowledge. In a social-constructivist inspired perspective on science and technology development, innovations are regarded as always being "about simultaneously shaping technology and building society" (Bijker and Law, 1997), meaning that they are developed as part of a particular local culture of knowledge production and are diffused through local networks and channels of knowledge transmission. External and global knowledge can

stimulate these processes positively and are also very important for agriculture. However, any new knowledge, technology and innovation will only fit local conditions if local epistemic cultures have made sense of them and thus assure that they make sense to local users and practitioners.

We define "knowledge" along the lines of Peter Berger and Thomas Luckmann who regard everything as knowledge that is perceived as such in and by society (Berger and Luckmann, 1966). While broad, this definition underlines the socially constructed character of knowledge, being defined, redefined, used, instrumentalized or abandoned by social actors. It encompasses all types of knowledge mobilized by actors (i.e. everyday versus expert knowledge, routine and formulaic knowledge, tacit versus explicit, local versus global knowledge, etc.).

Taking as their starting point these multiple forms of knowledge, which influence decision making in the collaborating organizations, the chapters in this volume link the assessment of local cultures of knowledge production and sharing – local epistemic cultures – with the role(s) that local governance systems play in shaping the enabling/restricting conditions for knowledge production and sharing. Hence knowledge does not exist as such, but is produced, filtered, and disseminated by certain organizations/networks, institutions and procedures. This is why the "knowledge–governance nexus" is highly significant. Despite the fact that the notion of governance is swiftly connoted with a normative understanding ("good governance"), from an analytical point of view one can understand governance as the sum of all organizations, procedures and institutions, through which decisions are made and implemented and through which authority is exercised (see Grindle, 2007a, b; Chibba, 2009). In Central Asia and the Caucasus the "knowledge–governance nexus" becomes particularly obvious in the agricultural sector. For the successful transmission of knowledge it is essential that new ideas, ways of doing things and innovations match the "windows of opportunity" of local farmers and that they correspond with legal, financial, and socio-political governance structures.

Key to our understanding is that governance includes the governmental as well as the nongovernment sphere and covers formal (written) and informal (unwritten) institutions and practices. This understanding of governance gives a particular emphasis to values, culture, traditions and ideologies, which are shaping modes of governance and even may compete with or contradict each other. Sarah Amsler states that "the discrepancy between ideological and lived reality continues to complicate the cultural

meaning of 'truth'" (Amsler, 2007: 145). Several chapters of this edited volume illustrate such mismatches of governance – such as the discrepancy between the ideological and lived reality, the contradictions between the state narratives and local practices, or the bricolage between "the formal" and "the informal". Against this background, one can observe that strategies of knowledge dissemination and adaptation, as promoted by international and national agencies (e.g. UNDP, World Bank, GIZ), often fail to take local cultural settings and believe systems into consideration by presupposing a certain model of effective and efficient governance. As this book with its particular concentration on the agricultural sector will show, it is not the technical and formal procedures that are of most significance to the "knowledge–governance nexus" but issues such as power, culture and history.

Organization of the Volume

The current volume brings together work that addresses the crucial role of the development of knowledge and innovation in socio-economic and political development and in adaptation to transformation processes in post-Soviet societies. The empirical and theoretical research chapters offer different disciplinary perspectives on the issues of knowledge, innovations, extension, agricultural advisory services and the interfaces of knowledge and governance, as well as agricultural politics towards knowledge creation and dissemination for farmers in Central Asian and Caucasian societies. Among the contributors' disciplines are geography, sociology, anthropology, ecology and the political sciences.

A unique feature of the book is that it takes a "bottom up" or "micro" sociological and ethnographic view of the process of agrarian transition in the Central Asian and Caucasus region. This stands in clear contrast to current approaches to agrarian change/transition in the region, which are mostly of a (macro)economic/political nature. All of the chapters presented in the volume are based on longitudinal, locally well informed ethnographic field research – something quite rare due to the difficulties of actually conducting qualitative (often locally perceived as politically sensitive) research in the region.