

## Crossroads Asia Working Papers

Competence Network Crossroads Asia

Editors: Ingeborg Baldauf, Claus Erik Bech Hansen, Stephan Conermann, Anna-Katharina Hornidge, Markus Kaiser, Hermann Kreuzmann, Katja Mielke, Dietrich Reetz, Conrad Schetter and Martin Sökefeld.

**How to cite this paper:** Schmitt, Florian (2015): 'Functional' governance as an alternative to 'territorial' governance? The case of the Kyrgyz irrigation sector and the implementation of Water User Associations (WUAs). In: Crossroads Asia Working Paper Series, No. 30.

Partners of the Network:



**Bonn International Center  
for Conversion (bicc)**



**Universität Bonn**  
Institut für Orient- und  
Asienwissenschaften (IOA)  
Zentrum für  
Entwicklungsforschung (ZEF)



**Freie Universität Berlin**  
Zentrum für Entwicklungs-  
länderforschung (ZEMF)



**Zentrum Moderner Orient  
(ZMO)**



**Humboldt Universität zu  
Berlin**  
Zentralasienseminar

SPONSORED BY THE



**Federal Ministry  
of Education  
and Research**



**Ludwig-Maximilians-  
Universität München**  
Institut für Ethnologie

Imprint

Competence Network Crossroads Asia: Conflict – Migration – Development

Project Office

Center for Development Research/ZEFa

Department of Political and Cultural Change

University of Bonn

Walter-Flex Str. 3

D-53113 Bonn

Tel: + 49-228-731722

Fax: + 49-228-731972

Email: [crossroads@uni-bonn.de](mailto:crossroads@uni-bonn.de)

Homepage: [www.crossroads-asia.de](http://www.crossroads-asia.de)

# **‘Functional’ governance as an alternative to ‘territorial’ governance?**

## **The case of the Kyrgyz irrigation sector and the implementation of Water User Associations (WUAs)**

Florian Schmitt

### Table of Contents

|  |    |
|--|----|
| Abstract .....   | 1  |
| List of Abbreviations.....   | 2  |
| 1. Introduction .....  | 3  |
| 2. Multi-Level-Governance and the concept of ‘good’ water governance .....   | 5  |
| 2.1 Types of Multi-Level-Governance .....  | 5  |
| 2.2 ‘Good’ water governance in development cooperation .....   | 7  |
| 3. Water Governance and irrigation management in Kyrgyzstan.....   | 9  |
| 3.1 The institutional context of water governance in Kyrgyzstan.....   | 9  |
| 3.2 The implementation of WUAs in Kyrgyzstan.....  | 13 |
| 3.3 The governance design of WUAs as an obstacle for local irrigation management.....                                      | 15 |
| 4. Task-specific governance as a solution for the irrigation sector in Kyrgyzstan?.....                                    | 18 |
| 4.1 The potential of functional governance in local irrigation management .....  | 18 |
| 4.2 The limits of task-specific governance and the socio-political context of irrigation management<br>in Kyrgyzstan ..... | 19 |
| 5. Conclusion.....   | 22 |
| 6. References.....   | 24 |
| Information on the competence network Crossroads Asia .....  | 28 |
| Publications in the Crossroads Asia Working Paper Series .....   | 29 |

## Abstract

International development organizations regard the concept of Integrated Water Resource Management (IWRM) as the universal model for participatory water governance and thereby globally promote the installation of so called Water User Associations (WUAs) for local irrigation management. As in most parts of Central Asia, WUAs have been introduced throughout Kyrgyzstan during the last two decades, too. The general idea of this approach is to solve the problem of deteriorating state-owned irrigation infrastructure through the transfer of irrigation responsibility and authority to the water users themselves. The long-term goal behind this is to transform the irrigation sector into a sustainable, market-friendly and democratic system. However, the performance of irrigation management systems in Kyrgyzstan is on average still very low and they can usually not provide equitable water withdrawal. There are almost no self-supporting WUAs and a large share of them is highly indebted (World Bank 2014: 15; Sehring 2009: 132-133).

Using the example of Kyrgyzstan's irrigation sector, this paper makes a theoretical attempt to show that a main cause for the malfunction of WUAs in a developing country is their blueprint governance design, which often disregards the socio-political context in which irrigation systems are embedded. Referring to Hooghe and Marks' (2003) dualistic typology of Multi-Level-Governance (MLG), I assert that the WUA approach in Kyrgyzstan largely coincides with 'territorial governance', whereas WUAs ideally rather match with 'functional governance' arrangements and that this is a cause for inefficiencies and low performance in the Kyrgyz irrigation sector. On these grounds this study addresses the following two research questions: To what extent can the way of forming local governance structures be described as a reason for the low performances and current challenges in the Kyrgyz irrigation sector? Is functional governance (MLG type II) a better alternative to territorial governance of local irrigation systems (MLG I) in Kyrgyzstan?

## List of Abbreviations

|             |   |
|-------------|---|
| AO          | <i>Aiyl Okmotu</i>  |
| DepVodKhoz  | <i>Department for Water Management (national level)</i>         |
| FOCJ        | <i>Functional, Overlapping and Competing Jurisdictions</i>      |
| FSK         | <i>Former Kolkhozes and Sovkhozes</i>                           |
| GWP         | <i>Global Water Partnership</i>                                 |
| IMT         | <i>Irrigation Management Transfer</i>                           |
| ISF         | <i>Irrigation Service Fee</i>                                   |
| IWRM        | <i>Integrated Water Resource Management</i>                     |
| MLG type I  | <i>Multi-Level-Governance Type I (“territorial” governance)</i> |
| MLG type II | <i>Multi-Level-Governance type II (“functional” governance)</i> |
| PIM         | <i>Participatory Irrigation Management</i>                      |
| RaiVodKhoz  | <i>District Water Management Department</i>                     |
| WUA         | <i>Water User Association</i>                                   |

## 1. Introduction

Since the mid-1990s, international development organizations regard the concept of Integrated Water Resource Management (IWRM) as the universal model for participatory water governance and have made its implementation a precondition for development assistance in the irrigation sector all over the world. While the strength of the concept lies in the interlinkage of management mechanisms and a legitimating institutional framework, IWRM has been criticized for its neo-liberal perspective, an elusive conception and its misappropriation as a universal approach to local water management irrespectively of social contextual factors (Hornidge et al. 2011: 255; Biswas 2008: 8). Based on the ideas of IWRM the donor community has globally promoted the installation of so called Water User Associations (WUAs). One of the central aims of this development concept is to solve the problem of deteriorating state-owned irrigation systems through the transfer of irrigation responsibility and authority to the water users themselves. From a donor perspective WUAs are self-reliant, democratic and independent farmer organizations and represent the institutional frames for local irrigation management (Worldbank 1997: 24). Despite a number of successful attempts at transferring irrigation management responsibilities to WUAs, in many cases these institutional reforms have not led to satisfactory outcomes (Veldwisch & Mollinga 2013: 12; Mielke et al. 2010; Mollinga et al. 2009; Sehring 2005: 5; Hamdy & Lacirignola 1997: 5).

As in most parts of Central Asia, WUAs have been introduced throughout Kyrgyzstan during the last two decades. Pushed by the effects of climate change and anticipated water crises, in Kyrgyzstan as well as in many other parts of the region irrigation systems have to maintain the deteriorating irrigation infrastructure inherited from the Soviet Union and deal with a growing gap between user demand and actual supply of irrigation water (Tischbein et al. 2013: 77). Especially the transformation of large agricultural collectives (*Kolkhozes* and *Sovkhozes*) into small private-owned farms posed high challenges to the existing irrigation arrangements in Kyrgyzstan's agricultural sector. On these grounds, since 1995 WUAs have been established to shift the responsibilities and costs related to the operation and maintenance of irrigation systems and water distribution away from government agencies towards local farmer associations (Swain & Das 2008: 28; Wegerich 2005: 30; Hamdy & Lacirignola 1997: 4). The general aim of this donor-driven approach has been the transformation of the irrigation sector into a sustainable, market-friendly and democratic system (Worldbank 1997: 24). However, the performance of the irrigation management in Kyrgyzstan is on average very low and can usually not provide equitable water withdrawal. There are almost no self-supporting WUAs and a large share of them is highly indebted (World Bank 2014: 15; Sehring 2009: 132-133).

Using the example of Kyrgyzstan's irrigation sector, this paper makes a theoretical attempt to expose the governance space as a reason for the failure of WUAs to deliver their expected outcomes in developing countries. I assume that a main cause for the malfunction of WUAs is their blueprint governance design which often proves to be incompatible with local social norms and traditional arrangements for the management of common property resources. Referring to Hooghe and Marks' (2003) dualistic typology of Multi-Level-Governance, I assert that the WUA approach as implemented within the context of water governance in Kyrgyzstan largely coincides with 'territorial governance', whereas WUAs ideally rather match with 'functional governance'. On these grounds this study addresses the following two research questions: To what extend can the way of forming local

governance structures be described as a reason for the low performances and current challenges in the Kyrgyz irrigation sector? Is functional governance (Multi-Level-Governance type II) a better alternative to territorial governance of local irrigation systems (Multi-Level-Governance type I) in Kyrgyzstan?

This discussion about the appropriateness of governance spaces can be regarded as a political science contribution to the debate on the multidimensionality of space, which lies at the heart of the Crossroads Asia research approach. The idea of using a Multi-Level-Governance perspective for analyzing the implementation of WUAs in Kyrgyzstan has been developed in conversations with Dr. Joe Hill, member of the Crossroads Asia network, who has strong research experience on the topic of irrigation management in Kyrgyzstan. The connecting factor between this paper's political science analysis and the socio-geographic perspective of the multidimensionality of space is given by Lefebvre's (1991 & 2009) concept of space: „Space is social: it involves assigning more or less appropriated places to the social relations [...] Social space has thus always been a social product” (Lefebvre 2009: 186f.). According to Lefebvre, every social group produces its own space. A central question in this context is the appropriateness of space, which he understands as “natural space modified in order to serve the needs and possibilities of a group” (Lefebvre 1991: 165). Ideally, the social power to shape space is used to achieve the group's interest, but all too often “power shapes space in its own interest in disregard of the group's interest” (Adams 2004: 1). This assertion is an interesting starting point to question the “appropriateness” of governance space in the Kyrgyz irrigation sector with regard to the distinction between functional and territorial types of Multi-Level-Governance.

This paper is divided in five sections. Section 2 sets out the multifaceted concept of Multi-Level-Governance and its typology according to Hooghe and Marks (2003) and subsequently explains the concepts of water governance and participatory irrigation management. Section 3.1 illustrates Kyrgyzstan's irrigation sector and recent institutional reforms, before 3.2 illustrates how WUAs in Kyrgyzstan coincides with MLG type I. On these grounds, 3.3 analyzes how this governance design can be regarded as a cause for the low performance in the Kyrgyz irrigation sector. Finally 4.1 assesses how far a task-specific governance approach, coinciding with MLG type II, can potentially solve these problems related to irrigation management. Afterwards, 4.2 turns its attention to the necessary socio-political preconditions for MLG type II in Kyrgyzstan and discusses whether such a predesigned and donor-driven development approach as the WUA reform can be compatible with the local norms and traditional arrangements in rural Kyrgyzstan at all. In the concluding chapter, I summarize the key findings of this paper and draw some general conclusions concerning the appropriate governance space for irrigation management in developing countries.

It is important to note that the aim of this paper is a political science discussion of different conceptions of governance space and their leverage on the management of resource management systems in developing countries, using the example of the Kyrgyz irrigation sector. As a detailed case study of the latter and a comprehensive analysis of the implementation of WUAs in Kyrgyzstan are beyond the scope and the research interest of this study, it builds upon the pertinent literature on this topic. This study is thereby mainly based on a comprehensive review of scientific works with regard to water governance in developing countries (cf. Lautze et al. 2014; Saleth & Dinar 2004; Ul Hassan et al. 2004) and especially the case studies of irrigation management systems in Kyrgyzstan by Igoe (2013), Hill (2012), Sehring (2009) and Herrfahrdt et al. (2006). The most important statistical resources for the empirical assessment of the performance of the agricultural sector in Kyrgyzstan are the recent program reports of the World Bank (2014; 2013). Concerning the theoretical lens of

Multi Level Governance this paper especially refers to the works of Hooghe & Marks (2003; 2001) and Eichenberger & Frey (2006; 2005).

## 2. Multi-Level-Governance and the concept of 'good' water governance

### 2.1 *Types of Multi-Level-Governance*

The use of research concepts subsumed under the term 'governance' has become a rising trend during the last two decades. The broad application in empirical research and the advancement of theoretical works however prove that governance is not only a trendy term, but also a useful – albeit vague – analytical concept in social sciences (Blumenthal 2013: 85). There are a multitude of different governance definitions, but the core ideas contained therein are widely acknowledged by most scientists. The concept is based on the insight that government institutions traditionally bearing the responsibility of alleviating collective problems – e.g., the hierarchical structured central state or economic markets – increasingly struggle to find solutions to these problems in the context of current challenges in a globalized world (Benz et al. 2007: 13). Governance – as opposed to 'government' – therefore questions the classic distinction between state and society and can be used as a generic term to describe all patterns of handling interdependencies and decision-making processes between states and between the state and different social actors (Heinelt 2002: 23). Above that, many definitions emphasize especially the procedural character of governance. The UN Economic and Social Commission for Asia and the Pacific (UNESCAP) defines governance simply put as, "the process of decision-making and the process by which decisions are implemented (or not implemented)" (UNESCAP 2009: 1).

Multi-Level-Governance as a sub-concept of governance has its roots primarily in International Relations and European Integration Studies, but has been applied in many fields of social sciences. The main assumption of Multi-Level-Governance is the existence of interdependencies in decision-making between actors and institutions located at different scales (Blumenthal 2013: 96). The OECD defines Multi-Level-Governance as "the explicit or implicit sharing of policymaking authority, responsibility, development and implementation at different administrative and territorial levels" (OECD 2011: 29). The structures of Multi-Level systems vary as well as the coordination mechanisms – e.g., negotiations, network relations, competition or hierarchy – between the different scales. 'Scales' are levels with certain authorities and resources, and are usually formed territorially, e.g. based on existing state institutions or through the association of corporative actors who regulate their behavior through common institutions. Multi-level-Governance only describes structural features of a political system and the separation of certain authorities, it focuses on the interweaving politics and coordination processes between actors from different scales, too (Benz 2007: 298).

Based on the assumption that decentralized states offer more flexible and effective solutions to collective challenges than centralized states, Hooghe and Marks (2003) distinguish two basic concepts of MLG, type I and type II. Type I, also labeled "general purpose jurisdiction", is based around the ideas of federalism and describes forms of governance where decision-making authorities are split between a few different territorial fixed administrations (e.g., located on the national, regional or local level). "General purpose jurisdictions" means that those 'territorial governance' units exercise authority in many fields of politics and combine different political, judicial and representative functions and responsibilities within their geographical boundaries e.g., national-,

provincial-, and local governments). Memberships to these jurisdictions cannot intersect: “In Type I governance, every citizen is located in a Russian Doll set of nested jurisdictions, where there is one and only one relevant jurisdiction at any particular territorial scale” (Hooghe & Marks 2003: 236). A typical example for MLG type I is the horizontal coexistence of different local authorities with the same multipurpose political powers and obligations on different scales, e.g., in a federal system. Territorial governance is suited to intrinsic and encompassing communities with common identities. These communities are usually territorially defined or formed through the memberships to certain cultural or ethnic groups. In those cases type I forms of governance satisfy the superior demand for collective decision-making, “[...] independent of citizens’ preferences for efficiency or for any particular policy output” (Hooghe & Marks 2003: 240).

MLG type II follows a very different concept of decentralization and is composed of a high number of geographically overlapping, task-specific jurisdictions, each fulfilling certain social, economic or political functions. Type II MLG bears a strong resemblance to the concept of “Functional, Overlapping and Competing Jurisdictions (FOCJ)”, put forth by the economists Frey & Eichenberger (2006). The structural designs and the scales involved in such jurisdictions vary with regard to their functions. Every citizen is usually a member of different functional-specific bodies. Typically, this form of governance can be found in urban areas, where public services like garbage collection, gas supply or public transport are separated between independent institutions with different, often overlapping territorial boundaries. Concrete examples are the so called *Zivilgemeinden* in Switzerland – functional units which are financed by user charges and provide their members with water, reception, electricity etc. – or the so called ‘special districts’ in the US, e.g., for schooling, fire prevention or recreation (Eichenberger & Frey 2006: 16). Type II forms of MLG have the objective of solving issue-specific tasks. Members of ‘functional governance’ units share a certain territorial or functional space and can be described as heterogenic groups with a need for common decision making in a certain sphere of action: “These are not communities of fate; membership is voluntary, and one can be a member of several such groups. Membership in such functional communities is extrinsic; it encompasses merely one aspect of an individual’s identity” (Hooghe & Marks 2003: 241).

While Hooghe & Marks’ use their concept in the first place to analyze governance arrangements in the European Union, Eichenberger & Frey emphasize that the advantages of such task-specific governance approaches are not limited to industrialized countries. They argue that functional Multi-Level-Governance fits developing countries as well, as those countries usually suffer simultaneously from “over-government” (high interventionism) and “under-government” (low consideration for local problems). Task-specific governance arguably bears the potential to overcome these obstacles. Among the main advantages over other forms of governance in developing countries, Eichenberger & Frey highlight on the one side the end of the central government’s monopoly on politics and on the other side the opportunity to combine different types of political cultures and rules within one functional jurisdiction – for example the combination of western democratic principles with traditional ways of decision making with participatory features, e.g., the meetings of village elders. The authors thereby neglect the criticism that task-specific governance would not match with traditional participation mechanisms in most developing countries. They assume that if favorable, functional institutional settings are established and “[...] if citizens in developing countries are taken seriously, they [would] participate in political affairs” (Eichenberger & Frey 2006: 28-29).

Both types of Governance, general-purpose (MLG type I) and task-specific or functional (MLG type II, FOCJ) are quite different but they do not exclude each other. Neither are they just different



governance methods to the same ends. As mentioned above they first and foremost comprise different perspectives on the composition of communities.

## *2.2 'Good' water governance in development cooperation*

According to Sehring (2009), not before the beginning of the last decade development organizations and researchers consensually acknowledge that water governance is a central factor for solving challenges in the water sector and in its main subsectors, the irrigation sector and the drinking water sector. Before, the international political discourse on water control and distribution was for a long time almost exclusively dominated by a technical modernization approach argument – the so called “hydraulic mission” – which was based on the belief that the human control of water resources was mainly an engineering task that could be accomplished by the application of technical knowledge (Sehring 2009: 22).

The failure of these approaches to ensure effective handling of water resources and agricultural irrigation in the context of an anticipated global water crisis led to the forming of additional development concepts by the beginning of the new millennium. Donors eventually recognized the importance of the political framework and the social conditions for the successful management of water resources. From this new perspective agricultural irrigation systems have been regarded more and more as socio-technical systems that “[...] situate technology in the context that enables it to work” (Smith & Sterling 2008: 6). The idea that strategies which counter water shortages could not only rely on financial and technical improvements, but need to be embedded in a supportive institutional context became widely accepted. Based on this change of direction in the water discourse, development organizations started to understand water crises as crises of governance and realized 'good water governance' is a necessary factor for sustainable water resource management (Mollinga 2008: 9; UNESCO 2003: 370).

At this point it is important to note that there is also no common definition of water governance either. This is on the one hand due to the fact the term has just recently been developed, and on the other hand because it is primarily used by different international actors in different political contexts and in relation to different goals. Nevertheless it is possible to differentiate between two major dimensions of water governance (Sehring 2009: 24). The first dimension can be described as an analytical approach to water organizational structures that mainly focuses on the institutional structures and the social processes of decision-making, which are derived from specific values of resource control. Water governance thus includes all social and political structures, formal and informal institutions that affect water management and use. Water management on the other hand means the application of measures to control water resources and the achievement of objectives and standards within a context of given governance conditions (Lautze et al. 2014: 28-32; Toonen 2011: 13; Sehring 2009: 25). Multi-Level-Water-Governance can therefore be defined as the sharing of responsibility and authority over decision-making and implementation at different administrative, territorial or functional jurisdictions in the water sector.

The second dimension of the concept relates to the normative notion of good water governance. According to Sehring (2009:26) good water governance aims to create an institutional framework for water usage that fits into the specific economic, social, ecological and political context of a country along four basic propositions: equitable use, democratic use, efficient use and sustainable use. With regard to the positive development prospects through good and effective water governance, in the last three decades many governments all over the world have tried to improve their water sectors

through the application of different reform models. Though those reform models differ between different countries and sectors, especially in development countries one can observe a trend towards decentralization, user participation and cost minimization (Ménard & Saleth 2011: 2)

The most popular concept in the international development discourse with regard to good water governance, especially in the irrigation sector, is the holistic approach of “Integrated Water Resources Management” (IWRM).

The emergence of IWRM dates back to the beginning of the 1990s. The concept was mainly developed at the International Conference on Water and the Environment in Dublin (1992) and the UN Earth Summit in Rio de Janeiro (1992) and mainly promoted by the Global Water Partnership (GWP), a donor network founded in 1996 with the self-proclaimed aim to foster sustainable water management. At least since the World Water Forum (2000), IWRM, though it has never been an unchallenged concept, gained highest prominence in the global water discourse (Mollinga 2006: 21-24). The idea of integrated management approaches in the water sector has existed long before the 1990s: forerunners of institutionalized and integrated water management concepts have been applied decades and centuries earlier, for example in South America, the EU or the USA. But the notion and promotion of a universal *global* water policy presented the emergence of a new paradigm in the international water debate (Rahaman & Varis 2005: 15). The GWP defines IWRM as “[...] a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resulting economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems” (GWP 2009: 22).

The core principles of IWRM include the sectorial integration of all water-using activities and social externalities; water management along hydrological boundaries (in contrast to administrative boundaries); and participation of all stakeholders and the principle of subsidiarity (Herrfahrdt et al. 2006: 23). Though IWRM serves as general orientation for most donors today, critics of the concept emphasize that it remains too vague and gives no concrete proposition for political implementation. In their study on water management in the Khorezm region in Uzbekistan, Hornidge et al. (2011) come to the conclusion that – even though an implementation of IWRM principles would probably lead to desired developments in the region – “as a concept to analyse water management in Khorezm nevertheless, we regard it [IWRM] as insufficient and instead suggest an empirically-based conceptual understanding of local water management [...]” (Hornidge et al. 2011: 255). Further criticism relates to IWRM’s proximity to neo-liberal perspectives, its elusive conception and misappropriation as a universal approach to local water management irrespectively of social contextual factors (Hornidge et al. 2011: 255). Biswas (2008) challenges the practical value of the approach as a whole and questions whether IWRM is “[...] just an aggregation of trendy words which does not help water managers [...] to solve the real water-related problems that are being faced in different parts of the world” (Biswas 2008: 8).

Based on the ideas of IWRM and connected to reform concepts from the agricultural and irrigation sector, e.g., Participatory Irrigation Management (PIM) or Irrigation Management Transfer (IMT), international donors have globally promoted the installation of formalized water user groups. These organizations, often labelled as Water User Associations (WUAs), are today the central pillar of irrigation governance reforms worldwide and a condition for the receiving of development funds. In 2013, IMT reforms had been implemented in over 60 countries (Kulkarni & Tyagi 2013: 1).

WUAs aim to establish formal water management arrangements, in which a big share of the responsibility is transferred to the end user site. WUAs seem to be promising solutions especially in

cases when water users are confronted with the challenges of deteriorating irrigation systems due to insufficient government funds or the dangers of water scarcity due to inefficient water use (Yalcin & Mollinga 2007: 16). In general, donors expect that those user organizations have the potential to deliver better results in solving collective action problems in developing countries with regard to irrigation management than government departments (LaRue McGee2008: 3). WUAs are thereby designed to offer irrigation farmers a collective organization platform to manage and decide on their own water provision. Simultaneously, they are also obliged to take care of the irrigation system and potentially pay for its maintenance. WUAs distribute the irrigation water within their hydrological boundaries, collect irrigation fees from the farmers, and offer resolution mechanisms to conflicts (Herrfahrdt et al. 2006: 31; Ménard & Saleth 2011: 158; Vincent 1995: 148).

By international comparison the results of these institutional reforms differ greatly but WUAs had reasonable success in some countries, e.g., in the Philippines, Chile, Mexico and China (IWMI 2011: 5; Ménard & Saleth 2011: 11; Jumaboev et al. 2009: 4). Experiences in development cooperation have however shown that the mere creation of WUAs is not a sufficient condition for effective irrigation. One regional example for this is the “Hill Areas Land and Water Development Project” in the Indian Himalayas which is outlined in chapter 4.2 (p. 20). WUAs are usually embedded in a complex structure of formal and informal social rules and practices. Therefore those locally specific factors – which tend to be underestimated in many donor programs – have to be considered in the system design before sustainable irrigation management can take place (Igoe 2013: 44; Manzardo 2000: 185, 205).

### 3. Water Governance and irrigation management in Kyrgyzstan

As mentioned above, this paper assumes that a central reason for the bad condition of many irrigation systems in Kyrgyzstan is the way WUAs have been formed and operate within the framework of water governance in Kyrgyzstan. Referring to Hooghe and Marks’ (2003) dualistic typology of Multi-Level-Governance, I argue that the establishment of WUAs in Kyrgyzstan largely coincides with Type I MLG which leads to serious problems and inefficiencies with regard to irrigation management. Therefore the following section 3.1 at first briefly describes the historical and institutional context of the implementation of WUAs in Kyrgyzstan. Based on this, section 3.2 illustrates how the implementation of WUAs in the frame of the Kyrgyz water governance coincides with MLG type I. Subsequently an explanation is offered for why this type of governance is fraught with problems with regard to irrigation management in Kyrgyzstan.

#### *3.1 The institutional context of water governance in Kyrgyzstan*

Agriculture is the main branch of the Kyrgyz economy and amounts to 19 percent of the country’s GDP, employs one third of the Kyrgyz labor force and accounts for 13 percent of its exports. The scarcity of cultivable land can be described as one of the most limiting factors in the agricultural production: due to its topography, only 7 percent of Kyrgyzstan’s territory is arable and 80 percent of this land highly depends on irrigation (World Bank 2014: 15). Agricultural productivity in Kyrgyzstan is relatively low and sluggish – in some areas the productivity is even decreasing in the last years. The factors behind the low efficiency include a decaying infrastructure and machinery – e.g., irrigation systems – and a high degree of fragmentation of the agricultural area (World Bank 2014: 15).

This is primarily a result of the Soviet legacy and the post-independence reforms in Kyrgyzstan in the 1990s. In the USSR, agricultural landholdings were collectivized and cultivated by large collective and state farms, the former *Sovkhozes* and *Kolkhozes* (FSK), who were also responsible for irrigation water distribution and the maintenance of the vitally important irrigation channels. After the collapse of the Soviet Union the obligations of the formerly connected transnational agricultural systems in Central Asia were transferred to the national governments which – in times of newly gained independence and economic crisis – were mostly unable to cope with these tasks (Hill 2013a: 1-2).

In Kyrgyzstan, the administration of President Akaev therefore decided in the early 1990s to agree on an economic ‘shock therapy’ according to the structural adjustment agenda of the Washington Consensus. This was primarily prescribed and promoted by the international donor community in exchange for financial assistance. The reform agenda contained, for example, the introduction of market economy, internal and external price liberalization and the large-scale privatization of state property (Steimann 2010: 58). In the agricultural sector, the Kyrgyz government decided for large-scale land privatization to make the farmers self-responsible for their agricultural production. During the 1990s, the biggest share (75%) of the FSKs’ land was distributed to local families based on the number of their household members (Igoe 2014: 34; Nuralieva 2014: 7).<sup>1</sup>

As the quality of land plots in Kyrgyzstan is usually directly connected to its location in relation to its supplying canal system, some areas were obviously more desirable than others. In many cases the distribution process of the farming land took place in a non-transparent way and usually especially those elites who had already influential positions in the FSKs were the main beneficiaries of the privatization process and were provided with the best land parcels (Ul Hassan 2004: 8). This resulted in a strengthening of already existing social inequalities at the local level (Bichsel et al. 2010: 261; Herrfahrdt et al. 2006: 47-48). The land reform had immediate impacts on the irrigation systems, too: Canals which were formerly designed to manage the water distribution within large collective farms were now supposed to provide irrigation water to several new types of farms with individual land holdings of various sizes<sup>2</sup>. This posed a high challenge to irrigation governance, as social management systems had to be established, numerous new canal turnouts had to be built and new funds for canal maintenance had to be organized. Meanwhile, the central state’s financial support to the water sector dropped to 15 % of what it had been in the 1980s (Sehring 2009: 67-68).

In addition to that, Kyrgyzstan had to continue a deteriorated and underfunded irrigation infrastructure and a governance system that was widely incapable of fulfilling its obligations in the water sector. Therefore a multitude of governance reforms was implemented in the 1990s and 2000s, which followed international trends in water governance (Herrfahrdt et al. 2006: 4). The legal framework for the water sector is constituted in the Water Code, which was finally implemented in 2005 and succeeded the exiting “Law on Water”, which was the first legal frame after the fall of the SU that transferred the competencies of water governance solely to the independent Kyrgyz

---

<sup>1</sup> For a differentiated analysis of the land reform process in Kyrgyzstan, see: Bloch, Peter C. and Katie Rasmussen (1998): Land Reform in Kyrgyzstan. In: Wegren, Stephen K. (ed.): Land Reform in the Former Soviet Union and Eastern Europe. London: Routledge, pp. 111-135;

<sup>2</sup> For a comprehensive overview of the privatization process of the FSK in Kyrgyzstan, see: Ul Hassan, Mehmood; Rals Starkloff & Nargiza Nizamedinkhodjaeva (2004): Inadequacies in the Water Reforms in the Kyrgyz Republic. An Institutional Analysis. In: International Water Management Institute (IWMI), Research Report 81

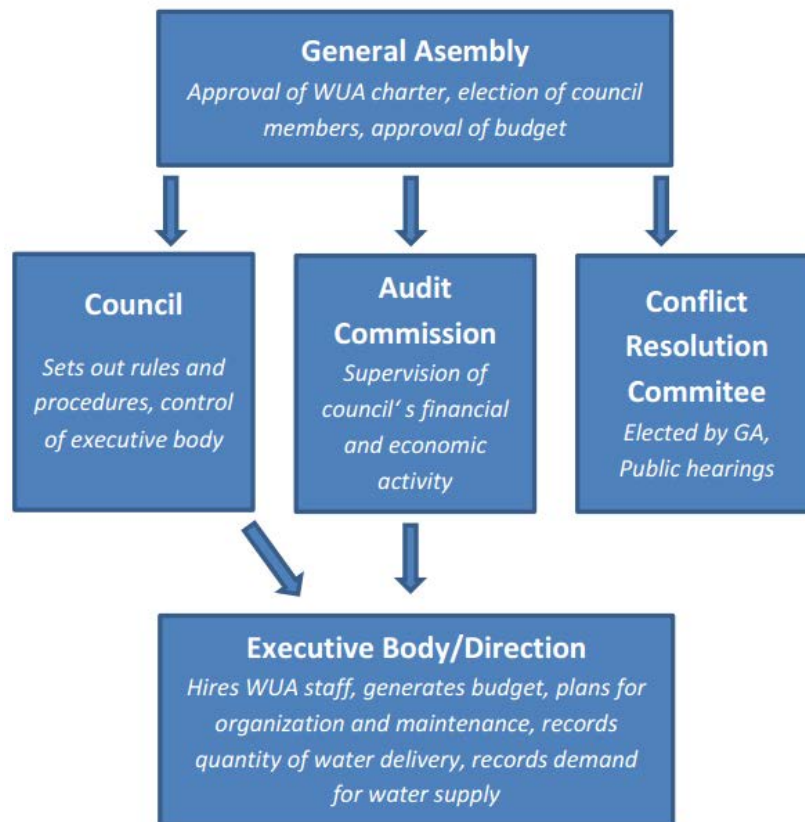
authorities. The Water Code sets out the main governance objectives in the Kyrgyz water sector and determines the scope for all further water related laws and reforms according to the principles of IWRM. This framework law aimed to solve the problems of duplications and unclear authorities through the creation of a clear water governance structure according to hydrographic principles and highlights the importance of user participation. Among the main objectives of the Water Code are the establishment of governance arrangements along hydrological boundaries, a clear distribution of competencies and the inclusion of user participation in water management. Therefore the law concentrated on the administrative reorganization of the Kyrgyz water sector, e.g., the establishment of irrigation management systems according to basin principles, the coordination of all measures in the water sectors under the frame of the national Water Council, the introduction of Irrigation Service Fees (ISF) and the transfer of local irrigation management to WUAs. Like most of the reforms in the Kyrgyz water sector, the Water Code has been criticized as top-down created by international donors and lacked public participation as well as the involvement of development scientists from Kyrgyzstan (Sehring 2009: 117-118, 120-129). Furthermore, critics argue that the Water Code remains too vague and lacks supplementary by-laws, which would be necessary in order to implement the policy goals formulated in the Water Code (Sehring 2009: 117-118, 120-129).

To understand the role of the different institutions involved in irrigation governance in Kyrgyzstan, a short overview of the country's administrative structure is necessary. Kyrgyzstan is divided into four administrative levels: 1) the national level; 2) the provincial Oblast-level, constituted of seven provinces (*Oblasts*) and the two major cities Bishkek and Osh; 3) a district Rayon-level with 45 districts (*Rayons*) and 10 cities, all subordinated to their corresponding *Oblasts*; and 4) a local level, consisting of 457 municipalities, so called *Aiyl Okmotus* (AO) (Bliss & Neumann 2014: 163).

The main institution responsible for water governance and policy formulation on the national level is the Department of Water Management (DepVodKhoz) at the national Ministry of Agriculture and Melioration (Library of Congress 2014). For certain large-scale donor projects the DepVodKhoz establishes special support branches at different administrative levels, e.g., the WUA support departments, which are funded by the World Bank but officially belong to the Kyrgyz water administration. The DepVodKhoz also has sub-departments on the Oblast-level (Basin Water Management Departments) as well as on the Rayon-level (District Water Management Departments or RaiVodKhoz), which are responsible for policy implementation and regulation, but have formally no say in policy formulation. The RaiVodKhoz are the central actors in policy implementation and directly negotiate water provision contracts with water users. They are also in charge of the operation of the so called secondary channel systems which provide water to the tertiary, inter-farm canals (Sehring 2009: 107).

At the local governance scale, in most areas today WUAs have replaced the state as the central actor of water management. They are in charge of the operation and maintenance of the tertiary canal system, the delivery of irrigation water to the related farms, the purchase of water from the RaiVodKhoz and the collection of the ISF from the end users. WUAs were initially introduced in the 1990s, but had not been established nationwide before the implementation of the World Bank's "On-farm irrigation Project" in 2001 (Bichsel et al. 2010: 258; Sehring 2009: 131).

**Figure 1: Internal structure of a WUA. (Source: modified version based on Herrfahrtdt et al. 2006: 58.)**



According to Igoe (2013: 9), it is difficult to describe the structure of WUAs in Kyrgyzstan, as their practical realizations vary and usually differ from the ideal blueprint format. A WUA is led by an honorary management council, which is elected by and accountable to the general assembly of all members. The council's main task is to supervise the work of the paid executive body. The council in turn is controlled by a so called Audit Commission. In addition to that, a Conflict Resolution Committee is foreseen to settle conflicts between water users and/or WUA bodies. Among the duties of the direction, led by a director and supported by an accountant, are the management of the WUA's budget, the planning of canal operation and maintenance, the control of water delivery, member registration and ISF collection. A hydro-engineer and one or more water masters, *mirabs*, are hired for the daily operation of the canal system during the irrigation period (Herrfahrtdt et al. 2006: 59). Every year the individual households sign a contract with their WUA and determine the amount of water they need for the irrigation season. Ultimately the WUA applies for a total quantity of water at the RaiVodKhoz and has to pay a specific price per cubic meter of delivered waters from secondary channels. The WUAs therefore request irrigation fees according to the costs of the water delivery and the canal maintenance from the farmers. The World Bank reports that up until 2013 481 WUAs had been formed, covering about 73% of all irrigated farm land in Kyrgyzstan (World Bank 2013: 2). According to Hill (2013a: 2), WUAs are almost exclusively established in the lowland regions of Kyrgyzstan, as policy makers regard high mountainous regions usually as less agriculturally productive and thus not as important.

Further actors involved in water governance are different national ministries and their sub-agencies on the national, provincial and district levels; international donor organizations, who conduct various

rural development and irrigation projects all over Kyrgyzstan; and several local institutions. Amongst them the AO, as the formal local self-government, holds a key position. After the Kyrgyz independence and before WUAs had been established all over the country, the authority over irrigation management was initially transferred to the local governments. In those places where WUAs do not exist yet, the AO is still responsible for water distribution. But even in those areas that are covered by WUAs the AO and their heads have a high influence on the operation of the irrigation management (Sehring 2009: 108-110; 136-144). Other institutions which can have a say in local irrigation management are for example the traditional court of elders, *Aksakal Sotus*, which are especially important for the settlement of disputes between WUAs and farmers as well as conflicts among WUA members (Sehring 2005: 29; Herrfahrtd et al. 2006: 60).

### *3.2 The implementation of WUAs in Kyrgyzstan*

At first glance the formal conception of WUAs in Kyrgyzstan seems to accommodate all aspects of good water governance according to IWRM principles. On paper, they represent almost ideal approaches to institutional reform in the light of the challenges which Kyrgyzstan's irrigation sector is facing: WUAs as the main actors of local irrigation management are formally independent, sustainable and self-responsible farmer organizations formed according to hydrological boundaries, which distribute water between the associated farms and maintain their irrigation systems. If one considers the formal design which underlies the formation of WUAs and the way they are embedded in the Kyrgyz water sector according to the Kyrgyz Water Code, one could gain the impression that this type of water institutional reform corresponds to a task-specific, functional and participatory type of governance.

This seems plausible in the light of the fact that the ideal constituency model behind the general formation of WUAs can be interpreted as that of a functional community. Driven by the experiences of excessive demands of the central state institutions as well as the local administrations to fulfill their irrigation obligations after the Kyrgyz independence, WUAs were established with the objective to disburden state institutions through cost-recovery management arrangements, in which a big share of the responsibility of water governance is transferred to the end-user side. As explained above, the main idea behind the formation of WUAs is the integration of the economic externalities of irrigation management through the forming of self-reliant, water providing organizations. Those individuals who directly benefit from irrigation water should also be the ones who pay for its provision. Owned and financed by the members themselves, WUAs are responsible for the maintenance of their corresponding irrigation systems and for the equitable water distribution. Through the introduction of irrigation fees to finance the WUAs in Kyrgyzstan, the former sense of 'water as a free good' changed to 'water as a scarce good'.

A closer look on their actual implementation however reveals that WUAs in Kyrgyzstan are – contrary to their original purpose – usually not created according to functional principles. In most cases they are established along administrative boundaries, especially along AO borders (Hill 2013b: 298). This means, for example, that two or more WUAs can exist within the same channel system, if it intersects different AOs. Such a neglect of the originally foreseen IWRM principle of hydrological based irrigation management can eventually lead to inefficiencies. Though in some regions the territorial boundaries of the municipalities match with hydrological boundaries, this is far from being the general case and occurs usually unintentionally (Sehring 2009: 122). The ignoring of functional boundaries is not only reflected on the local level but also on the district and provincial level. A good example for this is the reform of the provincial Oblast Water Departments, which were officially

renamed to 'Basin Water Departments' in 1997, implying a change of the governance principle from an administrative to a specific hydrological one. But according to Sehring (2009: 121), in reality the renaming took place without any structural modifications of the respective boundaries.

Not only does a territorial congruence exist between WUAs and AOs – in most cases high ranking AO members have a strong influence on the officially independent water user organizations, too. The WUA are in many cases “internally and externally” coopted by government institutions, essentially by the local administration, the AOs, and their heads (Sehring 2009: 191). Externally, they are not perceived as independent organizations, neither by their members nor by superior state institutions. Internally, the leading positions in the WUA are occupied by village elites. WUAs therefore often mirror already existing local power structures and are dominated by the local government actors, who in most cases have already been central figures in the FSK. Consequently a WUA cannot be described as an independent, task-specific jurisdiction, but rather as a subordinated agency under a multi-purpose jurisdiction in the form of the local municipality. Above that, WUAs are embedded at the lowest scale in the hierarchical order of few fixed territorial levels of governance, with upwards instead of downwards accountability (Sehring 2009: 194).

The explanations for why the implementation of WUAs in Kyrgyzstan differs to such an extent from its original IWRM design can be mainly found in the socio-political context which these irrigation reforms are embedded in. A central question thereby is how far participatory reform efforts in a single policy sector are fully realizable in a non- or partly democratic environment. Sehring (2009) describes Kyrgyzstan as a neo-patrimonial regime, “in which politics is characterized by formal democratic institutions on the one side and patrimonial informal institutions such as clientelism, autocratic and personal leadership, and corruption, on the other side” (Sehring 2009: 201). Water governance in Kyrgyzstan is therefore shaped by this complex network of various formal and informal institutions on different scales. The development of institutional reforms driven by central state actors and donors took often place while ignoring those locally specific informal institutions and previous practices of water management. Igoe (2014) points out that WUAs were designed by donors to be the definite alternative to centralized water management, often without consideration of social contextual factors, e.g. local power structures.

“None of these components of local water management exists in isolation from the interpersonal relationships that compose water access rights and responsibilities, and yet plans to install new institutions often proceed without awareness or regard for these complex, local dynamics. Without awareness of the daily politics, by which people negotiate their roles in a resource management system, large-scale plans to improve water resource management develop in isolation from the very practices and processes of water use and access that they seek to reform, and which ultimately determine their success” (Igoe 2014: 8).

Beyond that, due to practical reasons, when establishing WUAs donors usually relied on the information and cooperation of local leaders, as the involvement of broader parts in the planning process would have required too much time and financial recourses (Igoe 2014: 8; Sehring 2009: 133).

All in all, it can be said that, contrary to their formal conception, the establishment of WUAs within the context of the Kyrgyz water sector coincides with Type I MLG. WUAs are, as Hooghe & Marks (2004: 236) frame it, “located in a Russian Doll set of nested jurisdictions, where there is one relevant jurisdiction at any particular territorial scale.” They are generally formed according to territorial administrative boundaries and integrated in the governance system of multi-purpose administrations, which exist in a non-intersecting way, horizontally next to each other and vertically



subordinated to the territorial fixed superior administrative levels. They are usually absorbed by the AOs and traditional local elites and de facto perceived as sub-agencies of the local administrations and can therefore not be described as politically independent. Moreover, legal and executive authority with regard to the distribution of water in the irrigation sector is wielded according to the general pyramidal hierarchy of the Kyrgyz governance scales with WUAs on the lowest level and not in accordance to cross-scale and policy-specific principles.

### *3.3 The governance design of WUAs as an obstacle for local irrigation management*

This establishment of WUAs coinciding with type I MLG - although planned as MLG type II - gives rise to a series of problems regarding irrigation management. In the following these will be roughly divided in three categories: 1) Elite capture and cooptation of WUAs; 2) lack of independence and ownership of WUAs; 3) practical consequences for canal maintenance and operation.

#### *Elite capture and cooptation of WUAs*

Though there is a common understanding in the literature that decentralized local institutions are more likely to be accepted by the population than top-down instructed rules and norms, there is no consensus with regard to the general success of those participatory approaches (LaRue McGee 2011: 2). Taking into account his work on *Kuhl*-committees in India, which are comparable in their function to WUAs, Baker (1997) comes to the conclusion that the formalization of resource management systems at the local level always runs the risk to further strengthen existing social inequalities: “Under conditions of unequal distribution of resources and resource access, formalizing local institutions is likely to increase latent inequalities, and contribute to the further marginalization of weaker segments of the community” (Baker 1997: 9). In the Kyrgyz context, this is observable in the way FKS elites first ensured that land privatization would provide them and their associates with the most preferable land plots and later took over an appropriate level of influence in irrigation management through their status in the AOs and the newly formed WUAs.

Sehring (2009: 200) assumes that the structuring of irrigation management systems along territorial and administrative boundaries increases the likelihood of inequity in the water sector. WUAs were initially created due to donor initiatives to bypass state structures and local patronage networks in Kyrgyzstan and therefore founded as officially independent organizations – but in many cases they are seized by local institutions and elites, essentially by the local administration and their heads (Hill 2012: 8). As Sehring (2009: 202) states, “[t]he positions in WUAs are usually staffed with the main village actors [...]. In all villages of the case studies, the respective director of the agricultural cooperative [...] is the chairman of the WUA.”

Consistently, WUAs get roped into above described neo-patrimonial context in Kyrgyzstan and therefore sometimes even support power accumulation by already powerful members of society. The influence of elites in WUAs can stimulate misuse of authority, e.g., in cases when they allow their relatives to get preferential access to irrigation water while other parts of society are marginalized (Sehring 2009: 19). Access to irrigation water is therefore often still subject to the influence of social status as well as personal relations, and certain kinship ties of local elites often prevent WUAs from sanctioning illegal water withdrawal or irrigation water abuse (Steimann 2010: 154). This leads to a growth of power asymmetries between better-off local elites and poorer peasants but is in general widely accepted as long as those patrons can still collect and distribute to their adherents enough funds from donors and the central state and maintain the existing irrigation structures (Bliss & Neumann 2014: 317). However, this can eventually mean that the WUAs, once incorporated into this

patronage system, will stop working as soon as the financial support of the donors ends. Consequently, WUAs run the risk of not supporting the sustainable restructuring of irrigation management on a local level in Kyrgyzstan. Instead they can even be used as an instrument to strengthen the short-run stability of the irrigation arrangements inherited from former periods and in favor of those local elites who benefit from these arrangements (Igoe 2013: 106).

#### *Lack of independence and ownership*

A central expectation of the WUA model is that its participatory structure and the mandatory provision of irrigation fees generate a feeling of ownership for the irrigation system among the participating farmers. Accordingly, this sense of ownership has the potential to strengthen the sustainability of a WUA by encouraging the participation of farmers in taking care of the system infrastructure, monitoring canal damage and sanctioning law infringement (LaRue McGee 2011: 63; Meinen-Dick 1997: 111). With regard to the WUAs in Kyrgyzstan, due to their implementation as MLG type I units, the expectations according to the development of ownership have in many places not been fulfilled.

Because of the WUAs administrative proximity to the municipality governments, a majority of water users do not perceive them as independent organizations and not at all as owned by themselves. Farmers are often not even aware of their membership, nor of their associated rights and obligations. They usually consider the WUAs as being identical or at least subordinated to the AO (Bliss & Neumann 2014: 186, 188; Sehring 2009: 134-136; Herrfahrdt 2006: 3). Bliss & Neumann's survey results reveal that 80 percent of the entitled voters in the reviewed regions in Kyrgyzstan regularly attend the local government elections, while only 21 percent of the eligible respondents indicated that they had attended the last WUA elections (Bliss & Neumann: 2014: 185-186). Sehring (2009: 135) came to a similar sobering result concerning ownership perception among WUA members:

“Some can associate persons with it, but hardly anyone knows the exact name or what ‘WUA’ stands for. [...] Though the cases in which farmers do totally not know about WUA are rare – as are instances in which farmers exactly know what the WUA is. [...] However, in general farmers do not perceive the WUAs as independent organizations.”

Not only their members, but also superior government institutions often do not perceive WUAs as independent actors in irrigation management. WUAs are embedded at the lowest level in the institutional hierarchical order of Kyrgyz water governance. State institutions view WUAs often as subordinated executive agencies and not as independent management organizations with decision-making authority (Sehring 2009: 148).

To a big part, the low ownership of water users is owed to the way WUAs have been formed in the past. Due to the practicability and to the hastiness connected to the creation of WUAs, donors usually cooperated – especially in the early implementation phase – only with a few selected leaders of the communities, in general members of the AO, and often missed out to integrate the majority of the farmers (LaRue McGee 2011: 3). This elite-based approach has in turn strengthened a general attitude of many people in Kyrgyzstan towards participation. They understand participation as their role as clients in their relation to a local patron and not as individual rights, responsibilities or ownership (Bliss & Neumann 2014: 318). Of course this way of thinking is diametrically opposed to the ideal concept of participatory, self-reliant and independent WUAs.

This low sense of ownership among the farmers also has immediate impacts on the payment of the ISF. These are supposed to be collected by WUA officials and theoretically represent the main source of funding for irrigation projects, as they are expected to cover 50% of the expenditures of the water delivery according to the Water Code. However, in many areas the collection rate of ISF is quite low. Although this is against their vital self-interest, WUAs do not sanction the non-payment of ISF (Sehring 2009: 127). Obviously, ISF, while representing a major pillar of irrigation reform in Kyrgyzstan, is not perceived as a legitimate norm – neither by those who are the subjects of the charges, nor by those who are supposed to collect the fees. This combination of a lack of ownership among the water users, insufficient maintenance of the canals, uncertain water delivery by the RaiVodKhoz and a low collection of ISF form a vicious circle in irrigation management.

#### *Practical consequences for canal maintenance and operation*

The territorial creation of WUAs according to the MLG type I logic does not only create problems with regard to the neo-patrimonial context and the sense of ownership among the water users, but also causes a broad range of practical inefficiencies in the management of local irrigation systems. Hence, the boundaries of a WUA must be carefully considered according to hydrological principles to avoid various problems with regard to size and responsibility. In certain circumstances, the existence of more than one WUA in a hydrological area at local level can cause conflicts about canal rehabilitation when both organizations lack the willingness to collaborate. In cases where the territorial area covered by one WUA is too large, it can become impossible for the organization to manage all irrigation channels. On the contrary, if an area is too small, the number of water users might not be enough to generate enough funds to cover the requirements of the WUA (Jumaboev et al. 2009: 10).

In a special case study, Herrfahrdt et al. (2006: 69) discuss the consequences of ignoring hydrological principles with regard to the example of two WUAs located in one hydrological unit in the district of Panfilov in northern Kyrgyzstan. An abbreviated version of the case is presented below in order to illustrate the authors' point.

WUA 1 receives its irrigation water from a large canal owned by the district and therefore pays a fee to the RaiVodKhoz in an amount which corresponds to the irrigation needs of village 1. The farmers of village 2 were initially independent from the RaiVodKhoz canal, as its irrigation water is mainly provided by a separate, snow-fed stream from the mountains. For this reason WUA 2 does not pay any fees to the district. However, in summer months, village 2 frequently suffers from water scarcity. This is why WUA 2 has recently decided to buy water from WUA 1. The arrangement as well as the price for the water is negotiated bilaterally by the villages without notifying the district government.

While at first the agreement functions quite well, at times conflicts around water access occur. On the one hand, to cover all its irrigation needs first, village 1 does not always deliver the negotiated amount of water to village 2, leading to water scarcity and eventually to agricultural productivity deficits there. On the other hand, every now and then, farmers from village 2 avail themselves of water illegally drawn from channels which belong to WUA 1. Beyond that, there is a lack of collaboration in the maintenance of those parts of the canal between the intake structure and the division point used by both WUAs. While ideally both parties should share the work and costs with regard to canal rehabilitation, WUA 1 takes care of this first part of the canal, while WUA 2 manages the other part from the division point to village 2. Both parts, however, are in very bad condition. This can be explained because of damages in the context of illegal water withdrawal, the poor financial condition both WUAs are suffering from and a lack of accountability of WUA officials. These

coordination problems and inefficiencies are a result of ignorance about the hydrological principles and provide a good example of the possible practical consequences of the establishment of WUAs according to mere administrative boundaries.

## 4. Task-specific governance as a solution for the irrigation sector in Kyrgyzstan?

While section 3.3 revealed how inappropriate governance design resembling type I MLG can be held responsible for various challenges connected to the way WUAs have been formed, the remaining analysis assesses whether a task-specific form of governance represents a better alternative for irrigation management in Kyrgyzstan. To start with, section 4.1 ponders on how far task-specific arrangements can overcome the inefficiencies created by MLG type I. Afterwards section 4.2 turns its attention to the necessary socio-political preconditions for MLG II in Kyrgyzstan and discusses whether such a predesigned and donor-driven development approach as the WUA reform can be compatible with the local norms and traditional arrangements in rural Kyrgyzstan at all.

### *4.1 The potential of functional governance in local irrigation management*

First of all, a stronger focus on functional instead of administrative governance space certainly has the potential to overcome the practical consequences of “over-government” (high interventionism from superior government institutions) – and “under-government” (low consideration for locally specific problems and participation of irrigation farmers) (Eichenberger & Frey 2006: 25) – in the Kyrgyz water sector. The constraints for realizing this potential are discussed below (4.2)

A functional WUA approach would first and foremost get the better of the practical challenges that occur for the operation of canal systems when hydrological boundaries are ignored, e.g., conflicts over canal maintenance or concerning the size of the WUA, as shown on the example of the district of Panfilov (see section 3.3). In the case described above – which is particular – the coordination problems and inefficiencies could potentially be solved through a unification of both WUAs into a single jurisdiction. That way, both villages can benefit from the mountain stream and would share and coordinate the costs of the common canal maintenance. (Herrfahrdt et al. 2006: 70).

Such a creation of hydrological irrigation units, functionally separated from other government institutions, could also minimize the possibilities for local politicians to coopt central positions within the WUAs. Moreover, the sole focus on problem solving within the boundaries of a functional jurisdiction would prevent local irrigation management from falling victim to other political distribution conflicts. By establishing non-administrative but functional organizations, in many cases the influence and the informal power of the AOs in the WUAs would be weakened. As the hydrographical boundaries of arable areas in Kyrgyzstan often do not correspond with the administrative ones, cooperation between farmers and or leaders from different AOs and the excision of the WUAs out of the AO structures would be inevitable. This would lead to a decrease of certain elite circles’ power on irrigation management and serve the general farmers’ interests. As Sehring (2009:200-2012) argues, “[a] pure hydrographic organization would be less affiliated to local authorities, more independent from the administrative layers, and could protect water users’ interest more easily.” As shown in 3.2, a WUA that does not sanction illegal water withdrawal because of certain kinship ties and in favor of those social groups who are already better-off, cannot

expect that disadvantaged farmers still pay their service fees and take care of the canal system. A WUA, could it be dissociated from local patronage and power structures would therefore automatically gain higher legitimacy and authority to enforce water rules and sanction water theft.

Beyond that, the implementation of independent MLG type II jurisdictions bears also the potential to change the way WUAs are externally and internally perceived. Chances are high that this can eventually lead to an end of the so called “vicious circle of irrigation management” in Kyrgyzstan. Externally, independent WUAs, with a high collection-rate of ISF, would probably be more accepted by government agencies and perceived as partners in common water governance decision-making instead of as the lowest level executive organization. Internally, the strengthened institutional capacity of the WUAs would support the creation of a stronger sense of ownership. Hence, one can assume that if farmers are given incentives to contribute to system maintenance and really perceive ownership over the irrigation system while – simultaneously – other administrative levels perceive the WUAs as serious partners and guarantee the negotiated water delivery, there is a good chance that enough mutual trust and cooperation effort can be created to end the vicious cycle of irrigation management.

In theory, MLG type II jurisdictions – because of their flexible design structure – could be conformed to locally specific preferences of the communities and the particular social context. With regard to irrigation governance in Kyrgyzstan, this structural flexibility could potentially lead to a creation of WUAs which adhere to local norms, e.g. the traditional power structure, and informal institutions and either integrate them in their governance design or avoid them. This would allow for the use of traditional institutions instead of their replacement by new ones, implemented from above. Admittedly, such a strong awareness of local norms and institutions would also require a stronger involvement of farmers already in the planning and establishment phase of a WUA and a better inter-level coordination across political scales, as it is foreseen by MLG type II. Instead of getting an organization model imposed on them, which they then have to adapt to, farmers should be supported by state officials and donors to jointly develop institutions according to their above mentioned specific contexts – e.g. inherited power structures and traditional mechanisms of participatory engagement apart from western democratic forms. To assure their participation, farmers have to be involved in creating institutions which fit their social contexts and through which they can participate in the joint development of solutions to irrigation problems as partners of the government departments.

#### *4.2 The limits of task-specific governance and the socio-political context of irrigation management in Kyrgyzstan*

Based on the insight that a more functional governance approach has at least in theory the potential to minimize the inefficiencies caused by the implementation of WUAs in Kyrgyzstan, in the following section I analyze whether the necessary socio-political preconditions for a successful establishment of MLG II jurisdictions can be found in Kyrgyzstan. Furthermore, this section discusses whether the implementation of such a donor-driven approach – no matter what governance space it is based on – can be compatible with the institutional setting in rural Kyrgyzstan at all.

According to Sehring (2009), the local political culture in Kyrgyzstan is characterized by “a lack of pro-activeness and a general orientation towards village leaders.” Moreover, “[p]atronage is the central mode of politics. [...] [P]ersonal affiliation, networks, and patronage as the fundamental modes of distribution of resources remained” (Sehring 2009: 202). Many people in Kyrgyzstan understand

participation rather as their roles as clients in the face of a local patron or *vlast* (Bliss & Neumann 2014: 318). Humphrey (2002: 28) uses the term *vlast* to describe a distinct form of top-down authority and power legitimation combined with a paternalistic welfare provision in the Soviet Union, which a majority of the people in countries like Kyrgyzstan still demand today. Therefore – and not only in the context of irrigation management – many Kyrgyz do not perceive themselves as active political stakeholders and demand exactly this kind of top-down authority from their local elites (Bliss & Neumann 2014: 316). On that account Sehring (2009) scrutinizes the feasibility of a donor-driven reform concept like the WUA model in the, at best, partly democratic environment of Kyrgyzstan (Sehring 2009: 201).

With regard to the establishment of functional WUAs this presents an essential problem because functional governance presupposes the existence of user participation and a certain amount of democratic empowerment among water users (Eichenberger & Frey 2006: 14). Moreover, when examining their preferred organization level there seems to be a general tendency among irrigation farmers to see the village level and not the hydrological boundaries as the center around WUAs should be organized. The village or the AO – and not the canal system – is seen by many as the favored unit for organization. Usually all village residents know each other in person and many locals in Kyrgyzstan appear to have hesitations regarding cooperation with people they do not know personally (Sehring 2009: 144).

This finding draws our attention back to the composition of irrigation communities with regard to the typical constituencies of functional jurisdictions. As explained above, MLG type II is seen as the preferred form of governance for communities who share a common functional space and who for this reason have a common need for collective decision making. According to Hooghe & Marks (2001: 23; 2003: 240), irrigation farmers in industrialized countries theoretically set an ideal example of such a functional community. But if one looks at the reality of Kyrgyzstan's rural communities, it becomes obvious that they are not as functionally differentiated as, e.g., local communities in Western Europe. In Kyrgyzstan's rural areas almost all households are involved in agriculture and therefore rely on irrigation farming and for a big share of these farmers the village level is the focal point of their identity. So, for those reasons irrigation farmers in Kyrgyzstan might not represent the ideal constituency of a functional governance jurisdiction. They can at least to some extent be described as intrinsic communities with a demand for collective decision-making "[...] independent of citizens' preferences for efficiency or for any particular policy output" (Hooghe & Marks 2003: 240). From this perspective it cannot be ruled out that MLG type I jurisdictions like the local governments (AOs) may have the potential to internalize costs and benefits of irrigation in some cases even better than functional administrations. Moreover, especially in those rural communities in Kyrgyzstan that are marked by a low degree of functional differentiation it is rather difficult to confine the specific functional boundaries of potential MLG type II jurisdictions, e.g., with regard to the demarcation of the overlapping functional spaces of irrigation management, drinking water management or land distribution management.

Taking everything into account, the socio-political context of irrigation farming in Kyrgyzstan seems to be less favorable for MLG type II governance as initially envisaged. However, a closer look on the way WUAs have been established and how they have been absorbed by the pre-existing institutional setting creates the impression that the adjustment of governance space is not the only issue related to the appropriateness of the donor-driven irrigation reforms in Kyrgyzstan. In fact, the conformance of the WUAs with MLG type I seems to be a symptom of the general top-down implementation of the irrigation reforms in Kyrgyzstan. Lautze et al. (2014: 32) argue that the creation of WUAs in order

to realize the universal objectives of 'good water governance' according to the IWRM concept actually undermines one of the central aspects of participatory governance, namely the determination of policy goals by a society's own institutions: "How participatory can a planning process be if the goals are predetermined?" (Lautze et al. 2014: 32). While this argument is not supposed to lead into a post-development discussion on irrigation management, it is obvious that the WUA reform concept for Kyrgyzstan's irrigation sector was established mainly by donors and central state actors and without the close consideration of locally specific contextual factors. Although a stronger emphasis on functional space can lead to a better adaptability of WUAs with regard to a specific social context, the creation of WUAs according to the universal principles of IWRM means in any case the creation of new and externally designed institutions. New institutions get inevitably transformed and acquire their real meaning through interaction processes with their pre-existing formal and informal institutional context (Igoe 2014: 7). Such blueprint development approaches run the risk of producing unforeseen outcomes.

But the creation of new governance arrangements on the one side and the consideration of traditional institutions as well as the inclusion of domestic actors in policy formulation on the other side do not have to be mutually exclusive. Based on the insight that the mere founding of user organizations is not sufficient for effective local irrigation management, in 1990 the regional government of Himachal Pradesh, India, in cooperation with the World Bank carried out a large scale reform project in the irrigation sector there (Manzardo 2000: 189). By the end of the 1980s the regional irrigation systems based on a user organization approach were threatened to fail due to a lack of ownership on the side of the farmers and excessive demands of the government institutions. Therefore the project coordinators decided to create more inclusive institutions, which would fit the specific social contexts of the individual jurisdictions and through which the farmers could participate more easily in the joint development of solutions to irrigation problems. The main pillar of the reform was the installation of facilitators on the local level, who lived and worked in the respective farmer communities. Their primary objective was to develop individual organization strategies to meet the locally specific irrigation management needs – in cooperation with both the local farmers and the government staff (Manzardo 2000: S. 189).

While this example shows that it is possible to apply large scale reforms while considering more the local context and less some predesigned blueprint ideas, its value as a role model for the Kyrgyz context is limited because the political culture and historical background of institution building in India and Kyrgyzstan differ greatly. In fact, in their case study on drinking water organizations in rural Kyrgyzstan, Bliss & Neumann (2013) turn away from the creation of new institutions for water governance and suggest using already existing institutions. They recommend an official integration of the user organizations into the local government administrations. At first sight, this looks like a backward step towards fostering social asymmetries. However, to prevent a greater concentration of authority and influence of the local elites, the authors advise the strengthening of the *Aiyyl Kenesch*, the local parliament. Bliss & Neumann expect that the integration of user organizations into existing institutional structures leads to a higher legitimacy and efficiency of natural resource management organizations (Bliss & Neumann 2013: 322). But no matter which kind of reforms donors and central government institutions will in future choose to implement in order to improve the governance arrangements in the Kyrgyz irrigation sector, the results of this analysis indicate that they need to allow enough time and capacity to jointly form cooperation grounds together with local actors and with due regard to the locally specific institutional setting. Predesigned governance arrangements

cannot be simply put as blueprint models onto societies, as they are always “bound up in the interrelationships by which institutions acquire meaning in context” (Igoe 2013: 7).

## 5. Conclusion

Using the example of irrigation management in Kyrgyzstan, this paper shows that a main cause for the malfunction of WUAs in a developing country is their blueprint governance design, which often disregards the socio-political context in which irrigation systems are embedded in. By applying the dualistic typology of Multi-Level-Governance according to Hooghe & Marks (2003), the analysis of the implementation of WUAs in Kyrgyzstan reveals that their implementation according to territorial instead of functional governance space – although by design MGL type II – is a cause for inefficiencies and low performance in the Kyrgyz irrigation sector. The existing governance design coincides with MLG type I and causes a further strengthening of local power asymmetries as well as a lack of ownership amongst water users, provokes elite cooptation, and triggers practical inefficiencies in canal maintenance and operation.

A hydrological formation of WUAs would by contrast, at least in theory, mean less interlinking and more independence from local administration elites and could in this way better serve the interests of the ordinary farmers. Nevertheless, it is doubtful that functional governance according to MLG type II and the forming of WUAs with respect to hydrological boundaries present fully viable alternatives to territorial irrigation governance in Kyrgyzstan. On paper, functional governance has indeed the potential to essentially overcome those inefficiencies connected to MLG type I. But first of all, the rural communities in Kyrgyzstan seem to lack the necessary conditions for functional governance in terms of participation, political culture and functional differentiation to claim ownership of the WUAs. Beyond that, it is highly questionable whether the establishment of any blueprint institutional format, no matter if functional or territorial, can be successfully implemented in Kyrgyzstan at all. The analysis of the social context of Kyrgyz irrigation farmers shows that after tsarist colonialism, the Soviet period and the privatization process and administrative restructuring of the FSK in the 1990s, they hardly seem prepared or willing to adapt to another set of externally programmed rules and institutions and tend to hold on to their traditional relations and interaction patterns.

But these findings are not supposed to give the impression that the conceptual focus on governance space and the comparison between MLG I and II in irrigation management in Kyrgyzstan are to no purpose – quite the contrary is true. Of course one has to relativize the practicality of this theoretical concept. The results of this paper clearly show the advantages as well as the limits of Hooghe & Marks’ approach with regard to its application in development research. But the Multi-Level-Governance dichotomy presents a good impulse for reconsidering the way governance space in Kyrgyzstan has been shaped due to irrigation reforms. Recalling Lefebvre’s (1991) notion of the “appropriateness of space” , this paper illustrates how a certain governance space, in this case the Kyrgyz irrigation sector’s, has been shaped according to particular boundaries instead of others. Functional governance arrangements would probably be more “appropriate” with regard to the IWRM understanding of water users’ interest, but local decision makers, government institutions and also the ingrained habitus of the water users appear in many cases to be resistant to reforming the governance space since they are the ones who benefit from the existing administrative structure. However, this analysis illustrates how a certain “representation of space” (Lefebvre 1991: 38), here in



form of the IWRM principles of good water governance, has failed to be implemented according to its abstract model. This can be traced back to the fact that new institutions like WUAs are always embedded in preexisting ones. Hence such new institutions become transformed and change through their interaction with the “spatial practices” of specific communities, in this case represented by the local practices, habits and traditions in irrigation management and political participation in Kyrgyzstan and their historical trajectories.

All in all, the creation of WUAs has been promoted by the international donor community as the ultimate way to successful and sustainable irrigation management. This paper affirms Sehring’s assertion, that there are no “one-size-fits-all approaches” in the reform of resource management systems (Sehring 2009: 206). Donors and development organizations should therefore recognize that the bare implementation of predesigned institutions is not sufficient for successful resource management as it “underestimates the complexity inherent in local natural resource management systems and institutions” (Igoe 2013: 45). The results of this paper indicate that the country specific context, an adequate time frame, the close cooperation with the target group and sensitivity for formal and informal local rules are of utmost importance when conceptualizing governance reforms in the irrigation sectors of developing countries.

## 6. References

- Adams, Peter (2004): Annotations to "The Production of Space" by Henri Lefebvre. University of Chicago. Online: <http://csmt.uchicago.edu/annotations/lefebvre.htm>. [Checked on 1/15/2015]
- Baker, Mark J. (1997): Consolidating Authority: Bureaucratization of Local Resource Management Institutions in Kangra, Himachal Pradesh. Paper for the 26th Annual Conference on South Asia, October 17-19, 1997. University of Wisconsin, Madison/WI.
- Benz, Arthur; Susanne Lütz; Uwe Schimank (2007): Einleitung. In: Arthur Benz; Susanne Lütz; Uwe Schimank; Georg Simonis (Eds.): *Handbuch Governance. Theoretische Grundlagen und empirische Anwendungsfelder*. Wiesbaden: VS, Verl. für Sozialwiss., pp. 9–26.
- Bichsel, Christine; Gilbert Fokou; Asel Ibraimova; Ulan Kasymov; Bernd Steimann; Susan Thieme (2010): Natural Resource Institutions in Transformation: The Tragedy and Glory of the Private. In: H. Hurni; U. Wiesmann (Eds.): *Global Change and Sustainable Development: A Synthesis of Regional Experiences from Research Partnerships*. Bern: Geographica Bernensia, pp. 255-269.
- Biswas, Asit K. (2008): Integrated Water Resources Management: Is It Working? In *Water Resources Development* 24 (1), pp. 5–22.
- Bloch, Peter C. & Katie Rasmussen (1998): Land Reform in Kyrgyzstan. In: Wegren, Stephen K. (ed.): *Land Reform in the Former Soviet Union and Eastern Europe*. London: Routledge, pp. 111-135.
- Blumenthal, Julia von (2013): Politikwissenschaftliche Perspektiven der Governance-Forschung. In: Katharina Maag Merki, Roman Langer, Herbert Altrichter (Eds.): *Educational Governance als Forschungsperspektive. Strategien, Methoden, Ansätze (Educational governance, Band 17)*, pp. 85–108.
- Ménard, Claude; R. Maria Saleth (2011): The Effectiveness of Alternative Water Governance Arrangements. In: Mike Young; Christine Esau (Eds.): *Investing in Water for a Green Economy. Services, infrastructure, policies and management*. United Nations Environment Program. Milton Park: Routledge, pp. 152-174.
- Eichenberger, Reiner; Bruno S. Frey (2006): Functional, Overlapping and Competing Jurisdictions (FOCJ): A Complement and Alternative to Today's Federalism. In: Ehtisham Ahmad; Giorgio Brosio (Eds.): *Handbook of Fiscal Federalism*. Cheltenham: Edward Elgar, pp. 154-181.
- Heinelt, Hubert (2002): Achieving Sustainable and Innovative Policies through Participatory Governance in a Multi-level Context: Theoretical Issues. In: Hubert Heinelt, Panagiotis Getimis, Grigoris Kafkalas, Randall Smith & Erik Swyngedouw (Eds.): *Participatory governance in multi-level context. Concepts and experience*. Opladen: Leske + Budrich, pp. 17–32.
- Herrfahrdt, Elke; Kipping, Martin; Pickardt, Tanja; Polak, Mathias; Rohrer, Caroline; Wolff, Carl Felix (2006): *Water Governance in the Kyrgyz Agricultural Sector: On its Way to Integrated Water Resource Management?* Bonn: Deutsches Institut für Entwicklungspolitik (DIE).
- Hill, Joe (2013a): Farmer managed irrigation systems in the Alai (Kyrgyzstan) and Pamir (Tajikistan) mountains. Global Water Forum (GWF) Discussion Paper No. 1343. Online: [http://www.globalwaterforum.org/wp-content/uploads/2013/11/Farmer-managed-irrigation-systems-in-the-Alai-Kyrgyzstan-and-Pamir-Tajikistan-mountains\\_GWF-1343.pdf](http://www.globalwaterforum.org/wp-content/uploads/2013/11/Farmer-managed-irrigation-systems-in-the-Alai-Kyrgyzstan-and-Pamir-Tajikistan-mountains_GWF-1343.pdf). [Checked on 1/15/2015]
- Hill, Joe (2013b): The Role of Authority in the Collective Management of Hill Irrigation Systems in the Alai (Kyrgyzstan) and Pamir (Tajikistan). In *Mountain Research and Development* 33 (3), pp.294–304.

- Hill, Joe (2012): A post-area studies approach to the study of hill irrigation across the Alai - Pamir - Karakorum – Himalaya. Crossroads Asia Working Paper Series, No. 3.
- Hooghe, Lisbeth; Marks, Gary (2003): Unraveling the Central State, but How? Types of Multi-Level Governance. In *The American Political Science Review* 97 (2), pp. 233–243.
- Hooghe, Lisbeth; Marks, Gary (2001): Types of Multi-Level Governance. European Integration online Papers (EIoP), No. 11. Online: <http://eiop.or.at/eiop/texte/2001-011a.htm>. [Checked on 1/15/2015]
- Hornidge, Anna-Katharina, Lisa Oberkircher, Bernhard Tischbein, Gunther Schorcht, Anik Bhaduri and Ahmad M. Manschadi (2011): Reconceptualizing water management in Khorezm, Uzbekistan. In: *Natural Resources Forum* 35, pp. 251–268.
- Humphrey, Caroline (2002): *The unmaking of Soviet life. Everyday economies after socialism*. Ithaca: Cornell University Press .
- Igoe, Peter Michael (2013): *Supporting Transitions to Resilient Irrigation Systems. Findings from southern Kyrgyzstan*. The University of Montana. Theses, Dissertations, Professional Papers No. 935. Online: <http://scholarworks.umt.edu/cgi/viewcontent.cgi?article=1954&context=etd>. [Checked on 1/15/2015]
- [IWMI] International Water Management Institute (2011): *Water User's Associations in the context of small holder agriculture*. Report for the International Agricultural Development. (IFAD). Online: [http://www.un.org/waterforlifedecade/water\\_cooperation\\_2013/pdf/wuas\\_and\\_small\\_holder\\_agriculture.pdf](http://www.un.org/waterforlifedecade/water_cooperation_2013/pdf/wuas_and_small_holder_agriculture.pdf), checked on 12/20/2014. [Checked on: 1/15/2015]
- Jumaboev, Kahramon; Anarbekov, Oytur; William, B.; Manthrithilake, Herath (2009): *An approach to water user associations in Tajikistan (Draft)*. Final project report on the national WUA concept, prepared by IWMI, Tashkent, Uzbekistan. Online: <http://publications.iwmi.org/pdf/H042571.pdf>. [Checked on 1/15/2015]
- Kulkarni, Suresh A.; Avinash C. Tyagi (2013): *Participatory Irrigation Management. Understanding the Role of Cooperative Culture*. Report for International Annual UN-Water Conference 2012/2013, Zaragoza, January 8-10, 2013.
- Lefebvre, Henri (2009): *State, Space, World*. Minneapolis: University of Minnesota Press.
- Lefebvre, Henri (1991): *The Production of Space*. Malden: Blackwell Publishers.
- LaRue McGee, Heather (2011): *Water, International Development and Collective Action: An impact assessment of an irrigation management project in Southern Kyrgyzstan*. PhD-Thesis. University of Michigan. Online: <http://deepblue.lib.umich.edu/handle/2027.42/89827>. [Checked on 1/15/2015]
- LaRue McGee, Heather (2008): *To cooperate or defect? The role of Water Users Associations in mitigating the "tragedy of the commons."* Working paper, Social Research Center, American University of Central Asia Bishkek.
- Lautze, Jonathan; Sanjiv de Silva; Mark Girodano & Luke Sanford (2014): *Water Governance*. In Jonathan Lautze (Ed.): *Key concepts in water resource management. A review and critical evaluation*. Abingdon: Routledge, pp. 25–38.
- Library of Congress (2014): *Legislation on Use of Water in Agriculture: Kyrgyzstan, Tajikistan, and Uzbekistan*. Library of Congress, Law Library. Online: <http://www.loc.gov/law/help/water-law/central-asian-states.php>. [Checked on 1/15/2014]
- Manzardo, Andrew E. (2000): *Farmer participation in irrigation management in state-sponsored minor irrigation systems in the Indian Himalayas*. In: Hermann Kreutzmann (Ed.): *Sharing Water*.

- Irrigation and Water Management in the Hindukush-Karakoram-Himalaya. Oxford: University Press, pp. 184-209.
- Meinzen-Dick, Ruth (1997): Farmer participation in irrigation – 20 years of experience and lessons for the future. In: *Irrigation and Drainage Systems*, pp. 103–118.
- Mielke, Katja; Shah, Usman; Abdullaev, Iskandar (2010): The Illusion of Establishing Control by Legal Definition: Water Rights, Principles and Power in Canal Irrigation Systems of the Kunduz River Basin. In: Eguavoen, Irit; Laube, Wolfram (eds.): *Negotiating Local Governance. Natural Resources Management at the Interface of Communities and the State*. ZEF Development Series. Hamburg: LIT, pp. 181-209.
- Mollinga, Peter P.; Mielke, Katja; Abdullaev, Iskandar; Shah, Usman; ter Steege, Bernie; Schetter, Conrad; Monsees, Jan (2009): Water, War and Reconstruction. Irrigation Management in the Kunduz Region, Afghanistan. In: Murat Arsel, Max Spoor (eds.): *Water, Environmental Security and Sustainable Rural Development. Conflict and Cooperation in Central Eurasia*. London: Routledge, pp. 21-48.
- Mollinga, Peter P. (2008): Water, Politics and Development: Framing a Political Sociology of Water Resources Management. In: *Water Alternatives* 1 (1), pp. 7–23.
- Mollinga, Peter P. (2006): IWRM in South Asia. A Concept Looking for a Constituency. In: Mollinga, Peter P.; Ajaya Dixit & Kusum Athukorala (eds.): *Integrated Water Resources Management: Global Theory, Emerging Practice and Local Needs*. London: Sage, pp. 21-37.
- Nuralieva, Aizada (2014): After a Decade of Reform in Irrigation Sector of Kyrgyzstan. Performance of WUAs and "Design Principles". Master-Thesis. HU Berlin.
- OECD (2011): *OECD Studies on Water. A Multi-Level Approach*. Paris: OECD Publishing. Online: <http://www.worldcat.org/oclc/770613810>. [Checked on 1/15/2015]
- Rahaman, Muhammad M. & Olli Varis (2005): Integrated water resources management: evolution, prospects and future challenges. In: *Sustainability: Science, Practice & Policy* 1:1, pp. 15-21.
- Saleth, R. Maria & Dinar, A. (2004): *The Institutional Economics of Water. A Cross-Country Analysis of Institutions and Performance*. Cheltenham: Edward Elgar Publishing Limited.
- Sehring, Jennifer (2009): *The Politics of Water institutional Reform in Neopatrimonial States. A Comparative Analysis of Kyrgyzstan and Tajikistan*. Wiesbaden: VS-Verlag.
- Steimann, Bernd (2010): *Making a Living in Uncertainty. Agro-Pastoral Livelihoods and Institutional Transformations in Post-Socialist Rural Kyrgyzstan*. Dissertation. University of Zurich. Online: [http://www.zora.uzh.ch/48643/4/Steimann\\_Making\\_a\\_living\\_in\\_uncertainty-V.pdf](http://www.zora.uzh.ch/48643/4/Steimann_Making_a_living_in_uncertainty-V.pdf). [Checked on 1/15/2015]
- Tischbein, B.; Manschadi, A.; Conrad, C.; Hornidge, A.-K.; Bhaduri, A.; Ul Hassan, M.; Lamers, J. P. A.; Awan, U. K. & Vlek, P. L. G. (2013): Adapting to water scarcity: constraints and opportunities for improving irrigation management in Khorezm, Uzbekistan. In: Borchardt, D. & Ralf Ibsch (ed.): *Integrated Water Resources Management in a Changing World. Lessons Learnt and Innovative Perspectives*. London: IWA, pp. 77-88. [Checked on 1/15/2015]
- Toonen, Theo (2011): The (Changing) Role of National Government in Multi-Level (Water-) Governance. In: Michal R. van der Valk; Michael R.; Penelope Keenan (Ed.): *Principles of good governance at different water governance levels*. Unesco Workshop in Delft, 22.03.2011, pp. 13–32.
- Ul Hassan, Mehmood; Rals Starkloff & Nargiza Nizamedinkhodjaeva (2004): Inadequacies in the Water Reforms in the Kyrgyz Republic. An Institutional Analysis. In: *International Water Management Institute (IWMI), Research Report 81*.

- UNESCAP (2009): What is Good Governance? Online: <http://www.unescap.org/sites/default/files/good-governance.pdf>. [Checked on 1/15/2015]
- UNESCO (2003): Water for People, Water for Life. The United Nations World Water Development Report. Online: <http://unesdoc.unesco.org/images/0012/001297/129726e.pdf>. [Checked on 1/15/2015]
- Wegerich, Kai (2005): Institutional Change in Water Management at Local and Provincial Level in Uzbekistan. Bern: Peter Lang.
- World Bank (2014): World Bank Group - Kyrgyz Republic Partnership. Program Snapshot. Online: <http://www.worldbank.org/content/dam/Worldbank/document/Kyrgyzrepublic-Snapshot.pdf>. [Checked on 1/15/2015]
- World Bank (2013): Project Information. National Water Resources Management Project Kyrgyz Republic. Report No.: PIDC879. Online: <http://documents.worldbank.org/curated/en/docsearch/author/857569>. [Checked on 1/15/2015]
- World Bank (1997): User Organizations for Sustainable Water Services. World Bank Technical Paper No. 354. Online: <http://elibrary.worldbank.org/doi/pdf/10.1596/0-8213-3855-2>. [Checked on 1/15/2015]
- Yalcin, Resul & Mollinga, Peter P. (2007): Water Users Associations in Uzbekistan: The Introduction of a New Institutional Arrangement for Local Water Management. Amu Darya Case Study – Uzbekistan, Deliverable WP 1.2.10 of the NeWater Project, Centre for Development Research (ZEF), University of Bonn.

## Information on the competence network Crossroads Asia

The competence network Crossroads Asia was established in 2011 to generate novel perspectives on interdisciplinary Area Studies research. Comprised of six research institutions with regional expertise covering Afghanistan, Iran, Kazakhstan, Kyrgyzstan, Nepal, Northern India, Pakistan, Tajikistan, Uzbekistan and Xinjiang, the network aims to further an understanding of the interactions of individuals with a connection to places from eastern Iran to western China and from the Aral Sea to northern India. In doing so, it intends to contribute to overcoming the neglect of non-‘Western’ epistemologies, insights and forms of knowledge generation, as well as to close certain gaps between systematic disciplines and Area Studies.

The research within the network has centered on figurations, defined as specific causal and functional connections making up constellations (e.g., familial, religious, or economic networks). During the first funding phase of the project (2011-14), micro-level empirical research focused on figurations related to three thematic concepts: conflict, migration and development. Since early 2015, the network has begun a second funding phase in which there is a synthesizing of earlier research. We are beginning in-depth analyses of how spatial realities are constructed by the movement of people, goods and ideas, as well as how these emerging constructions – with their limiting borders and boundaries – enable and constrain mobility. Physical and social mobility, as well as imagined/mental mobility, are all considered in this context. Our overarching research questions include: What, in particular movement, makes borders and boundaries take on significance? In turn, what causes their meaning to be altered or even lost? Within and across limiting components (e.g., geographic, political, socio-cultural and/or ethnic borders and boundaries), which factors contribute to im(mobility)?

Based on this extensive research and diverse analyses thereof, we are aiming to collectively elaborate a Crossroads Perspective for understanding complex webs of ties and their spatial dimensions. This non-prescriptive selection of conceptual and methodological tools for rethinking how to conduct research on fluid, dynamic and complex phenomena will be articulated at our conferences and workshops, in publications including an Area Studies textbook, and in teaching, including at the new ‘Global and Area Studies’ graduate program at the Humboldt Universität Berlin, one of the network institutes. The Crossroads Perspective will consist of a methodological approach (‘Follow the Figuration’), as well as an ethical component, to guide Area Studies researchers in reflecting on their position in relation to their subjects, as well as the tangible impacts of the research they conduct. The Crossroads Perspective will also contain a tool-kit of concepts which have proven resilient in our empirical analysis of, for example, bordering processes in Kashmir; cross-border bazaar trade between Kyrgyzstan, Kazakhstan and China; and Baloch networks rooted in Afghanistan, Pakistan and Iran.

The competence network understands itself as a mediator between the academic study of Crossroads Asia and efforts to meet the high demand for information on this area in politics and the public. Findings of the project will feed back into academic teaching, research outside the limits of the competence network, and public relations efforts. Further information on Crossroads Asia is available at [www.crossroads-asia.de](http://www.crossroads-asia.de).

## Publications in the Crossroads Asia Working Paper Series

- Marsden, Magnus (2011): Mobile Life on the Frontiers of Crossroads Asia. In: Crossroads Asia Working Paper Series, No. 1.
- Schetter, Conrad (2012): Translocal Lives. Patterns of Migration in Afghanistan. In: Crossroads Asia Working Paper Series, No. 2.
- Hill, Joe (2012): A Post-Area Studies Approach to the Study of Hill Irrigation across the Alai – Pamir – Karakoram – Himalaya. In: Crossroads Asia Working Paper Series, No. 3.
- Ismailbekova, Aksana (2012): Coping Strategies: Public Avoidance, Migration, and Marriage in the Aftermath of the Osh Conflict, Fergana Valley. In: Crossroads Asia Working Paper Series, No. 4.
- Ibrahim, Niamatullah (2012): Shift and Drift in Hazara Ethnic Consciousness. The Impact of Conflict and Migration. In: Crossroads Asia Working Paper Series, No. 5.
- Jamali, Hafeez (2013): The Anxiety of Development: Megaprojects and the Politics of Place in Gwadar, Pakistan. In: Crossroads Asia Working Paper Series, No. 6.
- Kreuzmann, Hermann (2013): The Significance of Geopolitical Issues for Internal Development and Intervention in Mountainous Areas of Crossroads Asia. In: Crossroads Asia Working Paper Series, No. 7.
- Tiller, Petra & Hiltrud Herbers (2013): „Der Entwicklungsprozess des Islams in Tadschikistan nach dem Zerfall der Sowjetunion“ als Figuration nach Norbert Elias? Eine erste Annäherung. In: Crossroads Asia Working Paper Series, No. 8.
- Behal, Rana (2013): Coolies, Recruiters and Planters: Migration of Indian Labour to the Southeast Asian and Assam Plantations during Colonial Rule. In: Crossroads Asia Working Paper Series, No. 9.
- Wenzel, Christoph (2013): Being a *Muhajir* in Present-Day Afghanistan – Views on Flight and Migration from Inside. In: Crossroads Asia Working Paper Series, No. 10.
- Benz, Andreas (2013): How Migrants Made Their Way: The Role of Pioneering Migrants and Solidarity Networks of the Wakhi of Gojal (Northern Pakistan) in Shaping the Dynamics of Rural-Urban Migration. In: Crossroads Asia Working Paper Series, No. 11.
- Ismailbekova, Aksana (2013): Migration and Patrilineal Descent: the Effects of Spatial Male Mobility on Social Female Mobility in Rural Kyrgyzstan. In: Crossroads Asia Working Paper Series, No. 12.
- Boboyorov, Hafiz (2013): The Ontological Sources of Political Stability and Economy: Mahalla Mediation in the Rural Communities of Southern Tajikistan. In: Crossroads Asia Working Paper Series, No. 13.
- Spooner, Brian (2013): Investment and Translocality. Recontextualizing the Baloch in Islamic and Global History. In: Crossroads Asia Working Paper Series, No. 14.
- Mielke, Katja & Anna-Katharina Hornidge (2014): Crossroads Studies: From Spatial Containers to Interactions in Differentiated Spatialities. In: Crossroads Asia Working Paper Series, No. 15.
- Hill, Joe (2014): Irrigation practices, irrigation development interventions, and local politics: Re-thinking the role of place over time in a village in Baltistan, in the central Karakorum. In: Crossroads Asia Working Paper Series, No. 16.
- Toktogulova, Mukaram (2014): The localisation of the transnational Tablighi Jama'at in Kyrgyzstan: structures, concepts, practices and metaphors. In: Crossroads Asia Working Paper Series, No. 17.
- Steenberg, Rune (2014): Network or Community? Two tropes for analysing social relations among Uyghur traders in Kyrgyzstan. In: Crossroads Asia Working Paper Series, No. 18.
- Durdu, Ayfer (2014): Gendered realms. Species of spaces in the city of Mazār-i Šarīf, Northern Afghanistan. In: Crossroads Asia Working Paper Series, No. 19.
- Van Assche, Kristof & Anna-Katharina Hornidge (2014): Hidden mobilities in post-Soviet Spaces. Boundaries, scales, identities and informal routes to livelihood In: Crossroads Asia Working Paper Series, No. 20.

- Alff, Henryk (2014): Embracing Chinese modernity? Articulation and positioning in China-Kazakhstan trade and exchange processes. In: Crossroads Asia Working Paper Series, No. 21.
- Hussain, Yasir (2014): Social Media as a Tool for Transparency and Good Governance in the Government of Gilgit-Baltistan, Pakistan. In: Crossroads Asia Working Paper Series, No. 22.
- Rippa, Alessandro (2014): From Uyghurs to Kashgaris (and back?): Migration and Cross-Border Interactions Between Xinjiang and Pakistan. In: Crossroads Asia Working Paper Series, No. 23.
- Benz, Andreas (2014): Strategic Positioning and the Reproduction of Inequality. The case of the Johari Shauka of the Kumaon Himalaya, India. In: Crossroads Asia Working Paper Series, No. 24.
- Jackson, Peter A. (2015): Spatialities of Knowledge in the Neoliberal World Academy. Theory, Practice and 21st Legacies of Area Studies. In: Crossroads Asia Working Paper Series, No. 25.
- Hornidge, Anna-Katharina, Kristof van Assche, Anastasiya Shtaltovna (2015): Uzbekistan – A Region of World Society (?) Variants of Differentiation in Agricultural Resources Governance. In: Crossroads Asia Working Paper Series, No. 26.
- Harms, Arne (2015): Off the Grid: Environmental Degradation and Citizenship at the Margins. In: Crossroads Asia Working Paper Series, No. 27.
- Kirmani, Nida (2015): Mobility and Urban Conflict: A Study of Lyari, Karachi. In: Crossroads Asia Working Paper Series, No. 28.
- Nasir, Aftab & Mielke, Katja (2015): *Vartan bhanji*-exchange practices and social (im-)mobility: Exploring the coping strategies of low-income households of different *biraderis* in rural Punjab. In: Crossroads Asia Working Paper Series, No. 29.
- Schmitt, Florian (2015): 'Functional' governance as an alternative to 'territorial' governance? The case of the Kyrgyz irrigation sector and the implementation of Water User Associations (WUAs). In: Crossroads Asia Working Paper Series, No. 30.

### **Crossroads Asia Concept Papers**

- Working Group Conflict (2012/2014): Conflict Research on Crossroads Asia – A Conceptual Approach (with post-script). In: Crossroads Asia Concept Paper Series, No. 1.
- Working Group Development (2012/2014): Development at the Crossroads. Development Research on Crossroads Asia – A Conceptual Approach (with post-script). In: Crossroads Asia Concept Paper Series, No. 2.
- Working Group Migration (2012/2014): Crossroads Asia through the Lens of Mobility and Migration – A Conceptual Approach (with post-script). In: Crossroads Asia Concept Paper Series, No. 3.