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'Stay – We Will Serve You Plov!'

Puzzles and pitfalls of water research in rural Uzbekistan

Lisa Oberkircher

Abstract

This article reflects on the methodology I used to conduct research on water use in rural Uzbekistan. It talks about ethical considerations, data puzzles, interdisciplinarity, and intercultural struggles. About why I will never eat plov again for the rest of my life and why fancy blue licence plates are not all good. Most importantly, it explains which thoughts went into the way I collected and analysed data, how my results have to be read, and how I tried to overcome methodological difficulties of doing research in a remote, traditional, and politically sensitive context such as the province Khorezm of Uzbekistan.

Keywords:
Central Asia, field research, hospitality, methodology, political correctness, political sensitivity, research ethics, subjectivity

1 Research Approach

Against the background of the Aral Sea crisis, my study aimed at finding out why farmers in Khorezm's irrigated agriculture use water the way they do, i.e. why they use it so inefficiently from an external/technical point of view. Starting point of the study were three considerations:

1. When the extent of the Aral Sea crisis became public in the late 1980s, inefficient water use in agriculture was diagnosed as the cause for the sea's desiccation (alongside the general expansion of agriculture in an arid climate that relies entirely on external water resources) (Micklin 1988, Glantz et al. 1993, Micklin 1994). The technical inefficiencies of the canal and drainage systems as well as application practices in Central Asia were identified, and considerable research conducted to develop water-saving practices.

2. With population growth, irrigation expansion and hydropower developments upstream, and a negative impact of climate change in the long run, water scarcity is expected to increase in Central Asia (Martius et al. 2009, Giese/Sehring 2007).

3. Although both the technical inefficiencies of the system, the necessity to save water, and the practices to do so were known by the time I started my research in 2007, water use continued to be inefficient and very few farmers had been observed to practice water-saving (Veldwisch 2008).

The puzzle 'why is this the case?' motivated my study, and I formulated the following main research question:

How do (political, economic, cultural, physical…) local characteristics incentivise or disincentivise the adoption of water-saving practices in irrigated agriculture in Khorezm Province, Uzbekistan.

1.1 Subjective versus objective

The main methodological choice I made at the beginning of my study was to try to answer the research question from the perspective of the water users. I deliberately did not pick specific aspects to research simply because I wanted to cover them, neither did I choose a scientific discipline to whose methods I limited the analysis. Instead, I let the research be steered by what the farmers voiced as the guiding aspects of their behaviour. With regard to the overall choice of methods, this led to the study becoming interdisciplinary. Content-wise, it means that the results of my study are not objective in the sense of based on measurable facts. Instead, in addition to the fact that research is never fully objective, since it is conducted by a researcher who is inherently subjective in his/her interpretations, my approach is deliberately subjective in that it aims to see reality through the farmers' eyes instead of the eyes of an external researcher. I have discussed implications of this methodological choice in more detail in one of the articles that present the findings of my study (Oberkircher/Hornidge submitted). In summary, I tried to get as familiar as possible with the context of the farmers through whose eyes I studied water use and mixed methods to capture both the actual behaviour of farmers, and the discourse around this behaviour.

1.2 Interdisciplinarity

As mentioned above, I did not choose one discipline's methods for my study or a specific combination of disciplines and methods. Obviously, I had a limited amount of time to learn new things and there are certainly useful scientific methods somewhere out there that I have never even heard of. However, in retrospect, I believe I did not refrain from using any particularly promising method merely because I did not know how to apply it. Whenever new sub-questions of my research formed around preliminary findings, I tried to find an adequate way of answering them. That my study was part of a large interdisciplinary project with colleagues from the natural sciences, social sciences, and economics was immensely helpful in this endeavour. I regularly discussed open questions with researchers from different

disciplines and followed up on ideas that seemed promising. In addition to the methods that I had at my disposal as a geoecologist, I participated in courses on development economics and social science methodology. When sociological and anthropological methods became the most important part of my data collection and analysis, I regularly attended the research group meetings of my institute's social science department and studied the sociological and anthropological theories that were most relevant for my research.

The methods I ended up using were qualitative and quantitative methods of the social sciences, as well as spatial analysis methods of geography/landscape ecology. Since my study will be defended at an Institute of Landscape Ecology with a research focus in the natural sciences, the social science methods used in my study will most likely be met with surprise if not reservation. I expect this because different disciplines have different cultures with regard to both fundamental understandings as well as everyday practices. If cultural norms of a discipline are violated, research is often perceived as unconvincing or unscientific by this discipline's members. Based on Mollinga (2008) and own experiences of working in an interdisciplinary research project, Table 1 highlights some of these disciplinary differences. Since the disciplines contradict each other fundamentally in some points, it was unavoidable for me to violate one or the other discipline's cultural norms at times during my research as well as in my publications.

One of the differences that I have experienced to cause the biggest dissent is the difference between positivist and non-positivist perspectives. At the core of positivism as applied in the natural sciences lie reliability, replicability, and representativeness of scientific method. While I made sure to embrace these principles whenever I applied quantitative methods and to a certain extent tried to consider them with regard to my qualitative methods, human behaviour cannot always be studied adequately under these principles. The study of one particular human action, for instance, is never replicable. As soon as time passes, a person changes and the situation changes, and data collection can never be replicated. Therefore, the scientific approach to deal with complex social phenomena is connected to a different perspective: Culture is seen as dynamically constructed in human interaction and its representation has to be negotiated between the researcher and other actors. Qualitative research, hence, deliberately does not mainly aim at providing evidence for phenomena. Instead, it aims at gaining understanding. The researcher is here a fundamental part of the research process and his/her own observations, field notes, or jotted down anecdotes are as relevant as data as measurement results for a natural scientist.

Table 1: Differences between the natural science and social science disciplinary culture

	Natural sciences	Social sciences
Syntax	• Data and findings preferably communicated in the form of maps, graphs, numbers, equations and short text passages or bullet points	• Data and findings preferably communicated in the form of continuous text
Semantics	• Positivist perspective	• Non-positivist (qualitative methods) and positivist (quantitative methods) perspective
	• Researcher conceptualised as external part of research	• Researcher conceptualised as internal part of research (particularly qualitative research)
Values	• Attractive visualisation of data and findings expected	• Good oral presentation skills expected
	• Discussion considered fruitful when calm, fact-based and oriented towards consensus finding	• Discussion considered fruitful when animated, polarised and offering new perspectives
Expected output	• Emphasis on clear results in the form of numbers, facts, or general rules	• Emphasis on differentiated analysis of mechanisms and patterns discussing several perspectives
	• Transcripts of unstructured interviews and field notes as data often considered unscientific	• Approach to consider research results independent from the researcher's choices and paradigms often considered intransparent
	• 'It depends'-statements disapproved of	• Generalised statements disapproved of

1.3   Concepts

The different methods I used in bits and pieces provided answers to my research question. But in order to come to interdisciplinary synergies between them instead of practising a side-by-side multidisciplinarity, I also aimed at a conceptual integration of their application and outcomes. To achieve this, I applied the framework for disciplinary boundary crossing by Mollinga (2008) (discussed in more detail in Oberkircher et al. submitted/a and Oberkircher et al. submitted/b). In addition to this, I needed to set the conceptual framework for a perspective that allowed me to answer the research question from the water users' perspective as mentioned above.

Water lifeworld. I pursued the latter by choosing a social constructionist perspective and assuming that people do not act based on a factual reality but based on socially constructed patterns. These patterns are created by the cultural or biographical sedimentation of experiences and consist of cognitive/mental maps, or simply typifications that guide all behaviour of the individual. Based on Schütz's lifeworld concept (Schütz 1932, Schütz/Luckmann 1974) and the theory of social construction by Berger/Luckmann (1984), I developed the concept of the water lifeworld that contains all lifeworld patterns that guide the interrelationship between water and water user (cf. a detailed derivation and discussion in Oberkircher/Hornidge submitted). Hence, the lens through which I answered the research question is the water users'/farmers' water lifeworld.

Landscape. While the general perspective of the study was thus the lifeworld lens, I still needed a concept to integrate the different disciplinary perspectives and data, and chose landscape for doing so. Landscape is a typical boundary concept in the sense of Mollinga (2008) in that it is part of the language of all disciplines I touched, but that its meaning differs between these disciplines. By drawing on these different meanings and loosely tying them together with the term landscape, spatial, quantitative, and qualitative perspectives could be integrated. I have used the landscape concept in two articles in the following understanding (for a more detailed derivation and discussion, see Oberkircher et al. submitted/a and Oberkircher et al. submitted/b):

- A landscape is a set of interlinked elements that have a spatial dimension and that are arranged in a specific spatial pattern at any given moment. Location, distance, perimeter, and area are attributes of landscape elements. Landscape elements can be biophysical (e.g. tree) or human/societal (e.g. site that is considered holy).

- A landscape consists of abstract layers that contain different types of information that are referenced by location. This information can be physical (e.g. soil type, precipitation) or virtual (e.g. 'the farmer whose field this is answered yes to survey question 12', or 'more than 20 villagers have prayed in this location in October 2008').

- A landscape is the result of a social construction process that translates the sensually perceivable landscape elements into (lifeworld) typifications, i.e. categories in which the individual thinks, thereby socially constructing the landscape into a pattern of culturally-specific meaning at a given moment.

The third landscape characteristic is where lifeworld and landscape are connected. The social construction process that turns mere physiography into a landscape translates the external/physical world into the lifeworld of the observer (here farmer/water user). Hence, when water use is considered a landscape process with all interrelationships of space, the physical, the human/societal, and the virtual, all processes that take place in the landscape can be seen as their socially constructed lifeworld projections, and causalities can be analysed within the lifeworld.

In summary, I conceptually think of water use as a landscape process. Whatever happens in this landscape is then seen through the water lifeworld lens and analysed within this projection.

1.4   Data collection and processing

A detailed description of data collection and processing techniques is given in each of the articles that present results of my study (Oberkircher forthcoming/a, Oberkircher et al. submitted/a, Oberkircher/Hornidge submitted, Oberkircher et al. submitted/b). I used three general types of techniques:

- *Qualitative research*: I collected data through participant observation, a farmer workshop for participatory problem definition, essay writing and drawing with school children, and unstructured interviews. In interviews, I progressively deepened the questions by first asking about practices/facts, then asking about processes in a more narrative form, and finally asking about own reflections of the interviewee, i.e. the discourse around practices. I stored, coded and analysed all qualitative data with the help of the Atlas.ti software.

- *Quantitative research*: I conducted two farmer surveys with structured questionnaires that allowed a statistical analysis.

- *Spatial analysis*: I mapped the physiography with the help of GPS equipment and analysed the resulting spatial data with the help of a Geographic Information System (GIS).

2 Research Setting

2.1   The political context

"When we had finished interviewing the farmer, we left and walked around the corner where our car was parked. We did not drive off immediately but instead started recording what we remembered of the conversation and made notes on the computer. This turned out to be a very bad idea. For some reason, the farmer followed after some minutes and walked up to us to see what we were doing. Since I had really liked the conversation with him and he had been so nice to us, it somehow did not seem right to me to lie to him. So when he asked what we were doing, this time I actually told the truth. I said that we were making notes of the things we had talked to him about – not to give to somebody else, but just for ourselves so that we would not forget it. After I had said this, he changed radically. He became very serious and said "No, don't write anything down!". Whatever we tried to explain after that, we did not manage to change back the mood. The farmer regretted that he had talked to us in the first place. He was scared and angry and did not trust us anymore. (own field notes, September 2008)"

I remember this day as one of the most disillusioning of my field work. By telling the farmer the truth I had so wanted to do the right thing, but I just ended up making him worry and causing myself and my assistant trouble. The question of what was the right thing to do – ethically, culturally, and methodologically – was one of the biggest challenges of my field work. It was a constant concern, especially because these categories often required opposite behaviour.

The reason why the farmer was so shocked that we were making notes of what he had said originates in the political context in which my research took place. Uzbekistan is a state-centric, authoritarian country. It does not have a functioning democracy, freedom of speech or free media. A Freedom House[1] report in 2009 named Uzbekistan as one of the most repressive countries in the world (cf. Freedom House 2009). The government around long-time president/dictator Islam Karimov has been frequently criticised for violating human rights. According to the annual Freedom House survey 2010, state

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[1] Freedom House is a US-American non-governmental organisation that supports democratic change, monitors freedom, and advocates for democracy and human rights worldwide. It publishes reports and surveys on global freedom including analyses on individual countries.

authorities suppress opposition activists, and restrict many basic liberties of the population (Freedom House 2010). In a 2010 report on Uzbekistan, Amnesty International state:

> "Particularly worrying [...] have been the continuing persistent allegations of torture or other ill-treatment by law enforcement officials and prison guards, including reports of the rape of women in detention." (Amnesty International 2010: 4) and "at least five human rights defenders were sentenced to long prison terms in 2009 on allegedly fictitious charges brought to punish them for their work, in particular for defending farmers' rights." (ibid.: 9)

The government of Uzbekistan has an immediate interest in agricultural production, particularly with regard to cotton. Cotton is grown under a quota and farmers have to sell their produce to the state at fixed prices at the end of each season. The state then exports cotton at higher prices and this way finances large parts of its budget. Since farmers would be able to make higher profit by growing other crops such as rice and selling them independently, there is a conflict of interest. The state hence secures its interest by a system of surveillance and control that farmers are subject to.

While land and water allocations, agricultural practices as well as yields are widely monitored, also regime critical opinions are on the radar of the authorities. Criticising the agricultural system openly can have severe consequences. Naturally, my informants rarely talked about this threat in detail, but it was often hinted at or admitted once I had known somebody for a while:

> "LO: What if farmers and peasants sat together and made their own decisions about this. Wouldn't this also be good?
> Farmer: Yes, it would be good. Even if there was no result this year, it could improve next year.
> LO: Why is this happening so little here?
> Farmer: People are not educated; they don't know how to express their opinion.
> LO: I have the feeling that many people do know how to express their opinion, but often they are scared to do so. They are scared of saying something the authorities don't want them to say. So they stay quiet.
> Farmer: Yes, that's true.
> LO: What are they scared of?
> ...
> LO: Could they be taken away by the authorities?
> Farmer: Yes. I don't know what your system is like. Here with our politics you cannot say everything. You can't even tell bad things behind the governor's back. Even if you are a really good interpreter, you could be taken away and someone else could be put instead of you" (interview with a fermer, April 2009).

Since my research touched upon many issues of land and water rights, state control, and occasionally corruption, everything I talked to farmers about was politically sensitive. Before I had arrived in Khorezm, I had been incapable of imagining how mundane topics such as everyday agricultural practices could be difficult to research. However, under the state order system, even the simple question of which crops a farmer grew was often so political that interviewees felt uneasy about answering it.

The fear and caution of informants combined with the real threat that they might get into difficulties has several implications on how research on agriculture can be conducted in Khorezm. Trevisani (2008), Wall (2006), and Veldwisch (2008) have written extensively about their experiences and the implications on methodology. As a consequence of the political context, the safety of informants, transparency and the freedom of participation, and trust-building require special considerations that I will present in subsequent sections.

2.2 The cultural context

Uzbekistan is located in the heart of Central Asia and has a long and diverse history. It staged early Persian influences and Muslim scholarship, flourishing trade during the rise of the Silk Road, the Great Game between the United Kingdom and Russia, large-scale expansion and mechanisation of agriculture

during the Soviet Union period, and since independence in 1991 geopolitical importance as a neighbouring country of Afghanistan. While Khorezm province is on the one hand far away from the capital Tashkent and separated from the rest of the country by vast deserts and known for its special regional culture, it nevertheless reflects many of Uzbekistan's major historical legacies. On the bright side, the city of Khiva shows the country's cultural Khanate heritage in a magnificent way. The pesticide-polluted salts that blow onto the fields and into the lungs of Khorezm's farmers from the nearby remnants of the Aral Sea are a reminder of the not so bright past.

While living in Khorezm and trying to make sense of what was happening around me, two characteristics continuously struck me as fundamental for the Khoremzmian psyche[2]. Firstly, Khorezm is all about irrigated agriculture. Every household has at least an irrigated garden plot on which agriculture is practiced, and the majority of the working population is employed in irrigated agriculture. However, more importantly, it is the self-conception of people and the perceptions of what life is made of that I found so 'agricultural' and so connected to the process of irrigation and the resource water. Historically, all civilisation in the region was centred around irrigation development. Successful rulers needed water management skills, and the institution of the mirab ('water lord') as a water manager has survived for centuries (O'Hara 2000), with the term today being used for the staff of water user associations. If people were asked about the pillars of society, I believe the vast majority of Khorezmians would name agriculture or dehqonchilik (peasant agriculture). Since agriculture in the region is not possible without irrigation, the saying 'water is life' is deeply rooted in people's perception of the environment (Oberkircher/Hornidge submitted).

The second characteristic I noticed refers less to actual values or norms, but more to the process of how these are dealt with. In a very simplified way, I would say that Khorezm is extremely conservative. Conservative is here meant not (only) in ideological terms, but in the literal sense of preserving something. I found Khorezmians very proud of their culture. But it was also rather obvious that this pride was derived not from the present but from history and from the way this history has created a wealth of traditions. Since independence, the living standard of Uzbekistan's population has become considerably lower (O'Hara 2000: 366), and uncertainty with regard to the future has increased. Many commodities of the former Soviet everyday life have acquired the character of luxury goods in post-Soviet Uzbekistan. The quality of metal products, for instance, has decreased so much that steel pipes that were produced during Soviet times are sold at much higher prices than new ones, even if they are covered by more than twenty years of rust. People obviously feel this 'thirdworldisation', as it has been called in the scientific literature (e.g. Trevisani 2008), and hence have attached a very negative connotation to change itself.

In my observations, the consequence of this is that Khorezmians prevent change as much as possible in their everyday life. Tradition in general, as well as individual cultural norms, is guarded with determination, and individualism is little tolerated. This holds true for every detail of social interaction. From the moment one enters the house of another person, there are clear cultural rules that determine the right thing to do and the wrong thing at every moment. How far one enters the house, in which order tea is poured, who makes toasts and in which order, who addresses whom and in which way, or who speaks the prayer at the end of the meal are examples for such rules. If the rules are violated, even by a foreigner, offence is taken rather quickly. Social acceptance is largely achieved by actively complying with the rules.

Since my research relied fully on the participation of farmers in my study, in their willingness to talk to me and to show me what they were doing, it was essential that I gained this social acceptance and did not offend people. Since the political context made the study so sensitive, acceptance was furthermore indispensible as the basis for trust building. I will discuss implications of this in subsequent sections. While the conservative, traditional setting made my study very challenging, the importance of water and agriculture for people's life was immensely helpful. I did not once run into a person who was not willing to talk about water and agriculture. Everybody was naturally interested in what I was doing and I was not once confronted with doubts about the relevance of my work.

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[2] Note that this section does not aim at a sophisticated, literature-based presentation of Khorezmian culture. Instead, it gives a short personal account of what I experienced as 'typically Khorezmian' during my field research.

3 Field Research Practice

My study was divided into three types of activities: (1) preparatory activities such as literature review, proposal writing, course work, and secondary data collection, (2) field research for primary data collection, and (3) data analysis and manuscript writing. The field work in Khorezm was split into two phases: six months from May to October 2008 and four months from March to June 2009. Certain field research activities were followed up by my assistant between July 2009 and April 2010 when I had already left Khorezm. The following sections reflect on implications of the political and cultural research context on my everyday field work.

3.1 Research ethics

Safety of informants. Above everything else, it was the safety of my informants that guided and hence also constrained my work. I never discussed the opinion of one informant on a politically sensitive topic with another unless I could do so in a general manner such as 'I have heard from others' without the possibility of people guessing who these 'others' may have been. This sometimes made double checking and triangulation difficult, but it was a constraint I had to accept as unavoidable. To limit such problems, I tried to get information on the topics that were relevant to my research, but immediately let go off sensitive issues that just came my way and were not of interest to me. Whenever I was asked about a conversation with somebody in retrospect I simply said that I had been there for lunch/dinner or that we had been talking about water scarcity (a topic everybody talked about particularly during the drought year 2008). In my publications, I keep information as anonymous as possible.

Transparency and participation. What bothered me a lot throughout my research was the constant need to lie to make people participate. Wall/Overton discuss how the usual ethical standards for research are simply not adequate in a political context such as Uzbekistan, and that by discouraging research in such regions, they may even be considered unethical, because they deny people the benefits of research and development interventions (Wall/Overton 2006: 62). My own experiences make me inclined to support this conclusion, since I would have indeed simply had no participants for my research and hence no results had I been completely open about my intentions. Nevertheless, it made me uneasy to play with identities and research topics the way I had to. Sometimes I introduced myself as a hydrologist studying technical things, sometimes as somebody studying agriculture, and sometimes simply as a visitor interested in life in the rural areas. In all situations, however, I downplayed the sensitivity of my research and my interest in political processes.

3.2 Building trust

To gain access to observing practices and to achieve a certain depth of interview, it is generally necessary to build trust when doing field research. Under the political risk for informants as described above, this was even more important. I approached trust building in a fourfold manner.

- I worked with a research assistant who was Uzbek and from Khorezm and had grown up in one of the most water-scarce regions of the province. By being familiar with the everyday water struggles of farmers, she not only knew which questions to ask about water and in which way, but also had a natural legitimacy of being one of the disadvantaged. When I did not speak much Uzbek at the beginning of the research, it frequently happened that people were very open towards my assistant but then said that she should not translate their statement. My assistant hence formed something like a buffer between the informants and myself that made people feel safer than if I had worked without an interpreter. This was one of the reasons why I continued to work with translation even once my Uzbek was good enough to understand large parts of people's answers.

- My assistant and I let routine and habit work for us. By spending as much time as possible in the case study areas and for parts of my research living within the villages we worked in, people simply got used to us being around. After a while word about us had spread, so that even new people we met greeted us by saying 'we know what you do' or even 'we were wondering when you would visit us'.

- We showed interest in the everyday village life, in people's traditions, interests and worries. We joined major events such as Navro'z (spring holiday), went to weddings, visited acquaintances regularly, and jointly complained about water scarcity, the cold, the heat, or whatever was an issue at the time. We tried to stick to as many cultural norms as possible, which my assistant obviously succeeded in much better than I. Nevertheless, I tried as much as I could and showed my general effort with the help of clearly visible signals such as wearing Uzbek clothes or learning Uzbek.

- What in the end probably made things work out the way they did was that we did not shy away from showing ourselves as people. We smiled a lot, got excited when a calf was born, played with children, joked, and climbed trees for the best mulberries. When I left one of my case study villages, I was called 'the girl who always smiles' and people said we were locals. Obviously, this was nice – but frankly, the personal effort was also the hardest. Among all inter-cultural frustrations, the constant being monitored by people, and the general frustrations that research can bring I would have sometimes loved to be 'the angry girl' or just 'the tired girl'.

3.3   Hospitality

Freedom of participation in research. Veldwisch (2008: 50) states that the tradition of hospitality in Khorezm does not allow people to completely refrain from participation in research, because they have to host the researcher as a guest. I made the same experience of hospitality masking a clear 'no' but noticed that unwillingness to participate then manifested itself by the way people were evasive in the conversation. After a while I was able to distinguish several different ways of subtle non-participation. Firstly, already the physical extent to which people ask you into their house gives an indication of how welcome you are there. With some people, I progressed from being invited one metre into their entrance and given some bread there, through being served inside the first open living room right past the entrance, to being explicitly invited for dinner in the 'good' living-room far inside the house. How conversations inside the house then went ranged from detailed interviews on topics I was interested in to being ushered inside and served for hours by women of the family while the actual interviewee never even showed up.

My freedom. Relatively quickly after I started field work, hospitality became my biggest enemy. While potential informants managed to participate or not participate in the research, I had to constantly participate in hospitality. The moment we knocked on somebody's door, I gave away my freedom of deciding what I wanted to do and entered into a contract that forced me to fulfil my responsibilities as a guest:

> "When we were done with the interview, we wanted to go home and get some rest before we had to go and have dinner with the other farmer. But when we said that we would leave now, R. responded that she had called the farmer and told him to pick us up at her place. I was a little taken aback by the way she had simply decided this without asking us, especially because I had not even been aware that she knew him and we had not told her that we were going to meet him. But I thought it was not such a big deal and just said, thank you, but we will go home for a while and let him know. R. did not accept this. She asked, why do you want to go home? I said I was tired and wanted some rest. She said, rest here. I said, thank you, but I would really like to go home for a bit. She said, if you want to go to the toilet, you can do this here. No matter how much we tried to get away, she insisted we stayed and got very offended by our resistance. I felt so trapped, it freaked me out completely. The way people constantly take away my freedom of doing even very small

things the way I want to, seems to be getting to me so much that I was ready to explode any second. Luckily, B. [my assistant] saw how it was killing me to remain calm and friendly, and she quickly offered to stay with R. so I could go home for an hour. R. accepted this compromise and I ran off like a mad woman" (own field notes, April 2009).

Time constraints. In addition to the general feeling of being trapped, hospitality also used up vast amounts of my day. Once inside a house, the hours sometimes dragged on without any useful information for my research, but leaving was impossible without causing offence:

> "After some more conversation, we tried to leave, but I knew that we should wait for the prayer. We mentioned many times that we had to get back to the office and that we didn't have much time anymore. After several more invitations to drink Vodka, A. actually said the plov was almost ready (?!! and I couldn't believe that they were seriously trying to make us eat more – why do people constantly try to feed their guests to death like this??). We knew we had to leave then or we would never leave, so we insisted. The prayer was spoken and we could at least move towards the door…" (own field notes, June 2008)

Health. Hospitality also goes along with being served a continuous flow of food. Initially, this was only an annoyance and required a discipline effort of eating vast amounts of food I did not like and praising that very food enthusiastically. Eventually, however, accepting food turned into a real problem. While I was frequently sick from parasites and other food and water-related illness throughout my field work, I ended up in a Tashkent hospital with (most likely) solanine poisoning in April 2009 and never fully recovered. Since food and drinks are largely prepared with saline and probably occasionally polluted groundwater, and hygiene standards are low in Khorezm, I got sick from almost everything I ate after the poisoning incident. Throwing-up on a daily basis, I was certainly not as productive as I could have been, and declining food eventually became a necessity. By that time I had luckily already eaten my way through more than eight months of field work and offence was not taken anymore as much as it would have been had I just arrived.

3.4   Avoiding the police image

In Khorezm (and most likely the rest of Uzbekistan), the first association that people have when one takes out a notebook and asks them questions is that they are being questioned by the police. Asking questions is generally regarded with suspicion, making notes of answers considered outright dangerous (cf. the field note quote in 2.1). Obviously, this does not make life as a researcher easy. To be able to get any interview process going in a constructive direction, it is necessary to distance oneself decisively from the police image. This means that the situation has to be made as informal as possible, and the flow of the interview as casual as possible. I attempted this by three measures:

I tried to leave the car with the blue United Nations license plates and the project logo behind as much as possible and either walked or cycled to people's houses or field to interview them. I introduced myself as a student from Germany and not as a UNESCO researcher. I did not exchange business cards or flag official research permissions, but simply walked up to people and started chatting.

I do not know Russian and when people spoke to me in Russian, I said: "I don't know any Russian but I know some Uzbek". I made many instant friends with this wonderful little sentence. While Russian is still widely understood by people even in the very rural areas, it is associated with the elite, the state or in general 'upper people' and official situations (cf. Veldwisch 2008: 51). Uzbek, in turn, is the 'normal' people's language; and the Khorezmian dialect that I learned symbolically bridged the gap between the farmers and myself even further. Obviously, neither my limited language skills nor my Uzbek clothes made me blend in by any means. I was always a completely foreign intruder, but at least I actively distanced myself further from the authorities than I was naturally different from the farmers.

Within days of starting field work, I made the (difficult) decision not to use a recording device or write down things while interviewing people. It simply made no sense; while it would have been much easier to remember the content of the conversation, there would have been by far less content to remember. After a while my assistant and I got quite used to remembering conversations and recorded what we

remembered as literally as possible immediately after the interview. I am aware that information certainly got omitted by this process, but overall I am convinced that more was gained than lost by this decision.

3.5   Gender

Before I started field work, many people had predicted that I would have a difficult time as a female researcher in a region as traditional as Khorezm, where the role of women is rather limited, particularly in professional contexts. But while I experienced many gender issues in rural Uzbekistan as irritating, shocking, or outright wrong, none of these affected my work as a researcher. On the contrary, being a woman was always an advantage.

Firstly, in a society with a strong segregation of women and men in everyday life, male researchers are often only able to capture the male version of reality. Access to female interviewees is limited and certain situations can never be observed because they occur only in the 'female domain' of life. That previous research on related topics in Khorezm has been conducted by male researchers (Veldwisch 2008, Trevisani 2008, Wall 2006), makes studies by female researchers particularly important. A gender bias, however, can likewise arise for female researchers who are ignorant of the 'male domain'. In my study, it worked very much to my advantage that I was a woman and hence got access to the female word, but that I could also emphasise my identity as a researcher and professional and thereby implicitly take up male gender characteristics. During Navro'z (spring holiday), for instance, the whole village was gender segregated at the celebration site, but my assistant and I were seated in the male section at the mayor's table in honour of our status as researchers and the fact that I was giving a speech during the celebration. Likewise, when people visited my house, I received them like a male host and not like a woman serving them. To nevertheless cater to the cultural protocol and avoid offence, my assistant often took up the female role of serving tea and food in such situations.

I am aware that my 'male' identity never extended to the more radical bonding practices that my male colleagues have reported on, and I certainly missed out on valuable confessions made in the course of vodka-induced merriment. However, the fact that I was never considered the full equal of a male researcher was also an advantage. While researchers such as Veldwisch (2008: 51) reported on several incidences of monitoring by the authorities or the secret police, I never experienced the like. The local authorities certainly knew who I was, where I was working, and whom I was talking to, but I do not think that my work was followed too closely. I may have just been unaware of the surveillance, but I believe that people did not feel as threatened by my presence as they would have been by a male researcher. In interviews on politically sensitive topics, my assistant and I were frequently able to use the fact that we were not really taken seriously to gain valuable information. Furthermore, many untrue but politically correct answers (cf. 4.1) that interviewees had elaborately put forth were corrected by their wives as soon as we asked them the same question in private.

4 Data Pitfalls

4.1   Political bias

I have discussed the political sensitivity of my research and the consequent risk for interviewees above. Methodologically, this had a strong impact on the validity of interview statements. I experienced certain topics as very difficult to research through interviews because asking about them did not lead to the revelation of viewpoints or reflections, but only triggered a pre-defined politically correct answer. One example is the irrigation priority of crops. When asked whether rice or cotton were irrigated first, the answer was always cotton (cotton cropping being for the state and rice cropping for the farmer's own profit). Once I had received this automatic answer while I was standing next to a rice field that was very

obviously irrigated before the respective farmer's cotton field, I paid more attention to this kind of political bias and found the following topics to be discursively pre-defined:

- Activities that officially require permission by the governor or the Ministry of Agriculture and Water Resources: If an activity can be observed, permission has always been pursued and granted

- Filling water management staff positions: Who formally has to be elected, was elected (even if he was actually appointed by the governor)

- Asking state water management staff about water availability or water management procedures: Instead of answering the question, presidential degrees or laws are quoted

- Cooperation between the state water management organisations and the water user associations: Relations are friendly and cooperation is good

- Independence: The situation has been better since independence (the only exception being water availability, which was however often explicitly described as a natural phenomenon and as uncharacteristic for the general situation that has improved)

- The president: He acts in favour of the people and is the country's source of stability and well-being

The methodological difficulty of this kind of bias is that the politically correct answer is not always necessarily untrue. It either reflects the factual reality, the version that the interviewee perceives (which is the subjective reality that I was most interested in), or a response to the political risk. The latter is called protectionist subjectivity by Wall (2006: 64-65), who was faced with similar evasiveness and politically correct statements in his research. I generally found it difficult to know which of the three possibilities applied for an interview statement.

To shed light on the political bias in my research I tried to combine observations with interview data. Furthermore, it was extremely helpful that women tended to use political correctness much less than men as soon as a situation was created that allowed for woman-to-woman conversations. In some cases, however, I was also lucky to be presented the 'real' and politically correct answer side-by-side:

> "LO: [the chairman of the agricultural machinery organisation MTP], does he stay chairman for as long as he likes?
> Accountant: Yes.
> LO: What if the farmers don't like their chairman?
> Accountant: Farmers do not vote for people they don't like.
> LO: But if they didn't, they could elect a new one?
> Accountant: Yes, the farmers vote for the chairman.
> Agronom [standing nearby]: He is appointed.
> Accountant: No, he is not appointed, they vote.
> [little quarrel between the two including a remark to B. [my assistant] that they did not want her to translate]" (interview with the MTP staff, July 2008).

One time my assistant was even warned that already her question was politically 'wrong':

> "When I asked him, if the water situation was better during Soviet times, he said 'Are you criticising independence? Do you want to say that those times were good and now it is bad?' I said no, we are just looking for information on the water condition at that time and now. I could hardly avoid his temper..." (field notes B. [my assistant], November 2009)

One way of avoiding a politically correct answer was to say that 'some people' had said otherwise already and to implicitly show that I was neither judging the respective statement nor interested in politics anyway. While this worked well for making people more talkative, it was obviously very suggestive and I could never be sure if the subsequent statement was not just caused by a willingness to agree with other people's statement. After a while I developed a better way of getting beyond political bias (that originally struck me as strange but turned out to be very successful). I first conducted the

interview with the general questions I had wanted to ask, including the ones that triggered politically correct answers. Then I said, we are now done, thank you very much for the interview. This 'closing statement' immediately caused the interviewee to relax considerably, the conversation became much more informal and people no longer worried as much about what they were saying. When possible, I then led the conversation back to some of the previous topics and often got answers that contradicted earlier statements.

I was hence able to gain some understanding beyond political correctness through my qualitative research that allowed for unstructured interviews and the combination of interviews and observation. On the one hand, this allowed me to put my data into perspective. On the other hand, however, it also showed me how difficult quantitative research in the form of surveys with structured questionnaires is in the context of Uzbekistan.

During my field research I discussed questionnaires with colleagues particularly from the economics department who rely entirely on survey data and often got very curious results. I strongly doubt the validity of results of such singular approaches to data collection. In the two farmer surveys that I conducted, I made sure to use all my insights from qualitative research to make questions as 'answerable' and precise as possible. Nevertheless, my assistant reported on differences between the survey answers and opinions voiced after the structured interview:

> "After the survey was over I asked them questions and then they opened up and expressed their own perspectives. Some of the answers they gave later contradict the answer they gave during the survey" (field notes B. [my assistant], December 2009).

4.2   Conceptual confusion

Similarly confusing, but easier to solve, were problems with regard to conceptual misunderstandings between the typifications farmers think and communicate in and external understandings that may create skewed results. Three examples are the crops that farmers grow, the size of farms, and the peculiarity of rice cropping. All three reflect a fundamental difference between Western understandings of agriculture and an agricultural system in transition from complete state planning towards privatisation. Veldwisch (2008) revealed that Uzbek agriculture can be understood as a system of three forms of production: state production under a quota (mostly cotton in summer), commercial production on land freed from the state plan (mostly rice) and peasant production on tomorqas (garden plots) (a mix of crops including vegetables, cereals, and fruits). People who practice the first two forms of production are called fermers, the latter dehqons, although fermers are often also dehqons.
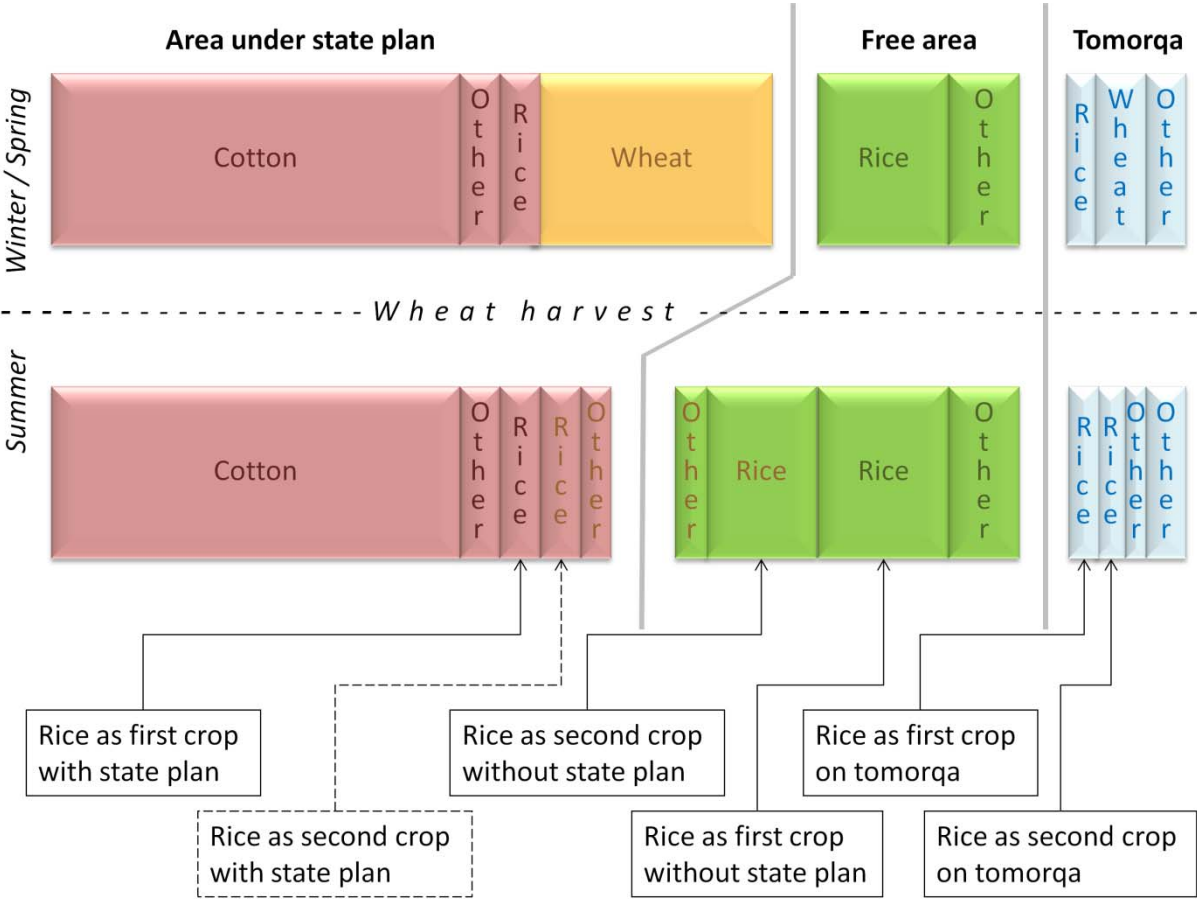
When interviewing fermers about their production, it is essential to be aware of the differences between state production and commercial production. The more formal a situation is perceived by interviewees (e.g. in the case of structured questionnaires for a quantitative survey), the more they understand themselves as state fermers. Questions asked in this context will be answered in the sense of the contract that the farmer holds with the state. When asked about which crops he/she grows, a farmer will name the ones under state quota and omit the ones grown on the free area. Similarly, the size of the farm may be denominated based on the actual size of the land including land that is fallow this season and the area freed from state production, or all land that is cropped, or merely the land under state plan – depending on the situation. Precise questions such as "what is the size of your free area", "which crops do you grow under the state plan" or "which crops do you grow on your free area" are hence essential to shed light on the actual agricultural production of a farmer.

Particularly difficult to capture are rice cropping arrangements. Since rice is the most profitable crop and is often not cropped for the state but usually requires permission by the authorities, all dealings around rice are kept secret and are very sensitive to research. To be able to at least gain a general insight into rice cropping, it is necessary to understand the different arrangements that are possible (as summarised in Figure 1).

Apart from the three forms of production on state plan land, free area, and tomorqas, there is also a distinction between rice as a first crop sown directly on the land in spring or rice as a second crop

planted with small seedlings on land that was used for a wheat crop during winter and spring. Overall, these distinctions allow for six different potential cropping arrangements for rice, of which I observed all but rice as the second crop under the state plan. The number of different arrangements in combination with the sensitivity of rice cropping determined that I had to formulate questions on rice in both a cautious and precise manner to be able to research the topic.

Figure 1: Rice cropping arrangements (all arrangement observed in Khorezm except for rice as second crop with state plan)

4.3 Secondary data reliability

While primary data collection poses the above discussed pitfalls, secondary data is even more difficult with regard to reliability. One of the reasons for this is a system of upwards (but not downwards) accountability in a network that directly links land and water management to political power. With regard to yields or irrigation water use, for instance, local level organisations such as the water user associations are accountable upwards to lower branch organisations of the Ministry of Agriculture and Water Resources, and these in return are accountable yet further upwards in the state hierarchy. Delivering the 'right numbers' regarding the state yield quota or the official water limits secures the social capital for the responsible person and thus the position in the state hierarchy. Veldwisch (2008) argues for irrigation water limits that this leads to an informal system of negotiations over the documented numbers that gives water management the necessary flexibility to react to water demand despite the centralised infrastructure and management system. However, it also creates a situation in which many official documents do not even nearly reflect the reality.

When this general practice of 'making the numbers fit' meets with topics that are also sensitive and involve different levels of corruption, data reliability gets completely lost. This is the case particularly with regard to rice statistics. In addition to being a problem of false numbers, this is also caused by the fact that the official statistics somewhat lag behind the agricultural reform process in Uzbekistan. While the introduction of a new system of farm (the *ferm*) in the early 2000s has led to the existence of land freed from the state plan, the official statistics mostly report on the land under state plan (which is also the much more interesting one for the authorities and their statistics). Since rice is mostly grown on the free area and on tomorqas, official statistics always understate the area cropped to rice and the rice yields considerably.

Data lagging behind reform processes is also the case with regard to maps and statistics on land leases. Particularly since the 2009 land consolidation process, the local land surveyors (zemlemers) do not have any up-to-date maps at their disposal. When a land lease is passed on from one farmer to another (which happens frequently and happened on a large scale during land consolidation), the cadastre office tries to catch up with these changes, but often cannot. Since only few people are good at reading (let alone creating) maps on the local level, maps are even less reliable.

In response to the bad quality of secondary data, I tried to avoid its use as much as possible. As soon as I relied on it in one part of my study (the GIS analysis), this caused immediate problems although I had double checked the data as well as possible. Since secondary data can sometimes probably not be avoided, I believe that it is essential to keep its lack of reliability in mind when analysing it.

5 Conclusions

With all the above-mentioned field work constraints, political bias and other data pitfalls, it is certainly not easy to do research in rural Uzbekistan and actually come up with valid results. One the one hand, I double- and triple-checked data as much as possible, and on the other hand made data weaknesses as explicit as possible in my publications. Since many of the observations I made are probably relevant for a lot of agricultural research in rural Uzbekistan or comparable regions, I hope that in addition to making my own study methodologically transparent, this article may also be useful for researchers who are planning to conduct similar research in the future.

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