

## **Natural Landscape or Anthropogenic Environment? A Case Study on the 'Wild' Fruit and Walnut Forests in Southern Kyrgyzstan**

### **The challenge of determining the value and 'nature' of a landscape**

In recent years, the establishment of nature reserves, national parks and other enclosed biosphere preservation areas has increased rapidly and on a global scale. This development is characterized not only by an accelerated spatial expansion of environments demarcated as being protected in some way, but also becomes visible in the increased rhetorical impact that conservational issues have on a many aspects of daily life, scientific discourses and political debates (Zimmerer 2006a: 4). This is a favourable progress and can only be regarded as an important achievement in human development. The time when nature was seen mainly as a source for resources has lasted more than long enough. This advancement, however, comes with certain difficulties.

The pressure on regions whose landscapes are considered as being natural, original or unique is starting to be increasingly demanding. For economically fragile people living in areas destined for nature reserves, the conservational pressure induced by outside, global actors often poses many difficulties for their daily survival. In light of the ever-expanding demarcation of conservation or protection areas, it seems necessary to rethink our concept of nature in order to be able to make decisions that ensure both environmental protection and a fair share of resources for people living close-by to areas the global conservation community wishes to protect. In the process of deciding upon reservation areas, a set of seemingly banal but nevertheless crucially important questions often remain unanswered: What is nature? Is it the opposite to culture, meaning it is that realm which has not been altered by human influence? Is nature that part of the world that one can find in forests and other seemingly untouched places, or is it something else? How can nature be protected if no one even knows what or where it is?

These often overlooked, seemingly philosophical issues have to be answered before implementing any environmental enclosure, as they lead to an even more controversial yet decisive problem: If nature is defined as a pure form of being, the opposite to human culture, then one has to ask - is there any nature left at all on this planet that humanity might be able to conserve? Is it a wise choice to proclaim areas inhabited by humans as the domain of some form of 'pure' nature where it ought to be preserved in a museum-like and anthropogenic-free form?

Not attending to this problem can have severe negative consequences and potentially destroy all conservation efforts at their very base. It is easy to imagine a situation where environmentalists put strong efforts into the establishment of a conservation area, making it come to live after years of hard work and obstacles - and then their definition of nature is scrutinized, in the way that all that they have been trying to protect is in fact not nature, but 'only' a 'worthless' relict of human-environment interaction. The definition of what 'valuable nature' is and what is not has to be discussed beforehand. If we don't think

about these issues today then many of our current conservation efforts might be seen as pointless in the future.

The study presented here wants to contribute to the conservational discourse surrounding different perceptions of human-environment-relations as well as the debate between utilization of resources and protection of pristine nature for future generations. In order to investigate these contradictory intentions in more detail, a case study of the inhabited forest reserve of Dashman, located in the famous 'wild' walnut-fruit forest of southern Kyrgyzstan, will be analysed. This area, which will be outlined in more detail further below entails both the 'natural' forest and a small settlement which is inhabited during the summer months. This case is a good example for the dichotomy between the intention to establish a natural reserve and the currently existing usage of the land and its products by local inhabitants for their everyday needs. In order to analyse this deep-rooted disagreement in regard of the assumed need to protect nature from anthropogenic influences it is seen as highly important to learn how different stakeholders currently use the assets in this area. Therefore the overall research question of this study is to examine how and to what extent the different stakeholders conserve and utilize natural resources in the semi-permanent forest settlement of Dashman and the surrounding woodlands. To describe the analytical framework behind this approach, the here presented paper will first describe the theoretical concept of historical ecology in order to define the understanding of human-environment relations for this study. This section is followed by an empirical investigation, which forms the main part of this study: the case study will be examined through three dimensions, namely the social economy, the institutional regulations and the conservation discourse. The final section gives an outlook into possible future handling of the here proposed redefined understanding of the nexus between nature and culture.

In total, the analysis of the research question and topic will examine the dilemma of restricting resource utilization in an area marked by a high dependency on natural assets by local inhabitants and simultaneously high conservational pressure by the national government as well as the international environmental community. In this context, the idea of imagining nature as an untouched, unaffected area or value which should be protected from any human influence will be challenged by proposing a dynamic and process based equilibrium approach as the base for human-environment relations.

### **Theorising natural landscapes: How archaeological findings in the Amazon may help improve environmental management in the 'wild' walnut-fruit forests**

Much of the recent year's debate surrounding environmental protection defined nature as being something outside of human societies, a pristine territory not affected by unnatural interference. This view has led to problematic issues. On the one side, the establishment of protected areas (i.e. national parks) can interfere with the local inhabitant's power over their resources. Environmental protection measures may clash with local people's daily needs and societal practices, resulting in the fact that actors living in remote areas who have a low carbon footprint may have to suffer resource depletion in their daily survival. The measures rather serve the well-being of actors in more centralized areas who

are often the very cause for environmental degradation due to their high-footprint lifestyles.

A second problematic issue that arises from the classification of nature as something opposite to humanity is that we often perceive specific areas as being natural when they are in fact not natural in their historic formation. New findings regarding environmental history and especially the history of human-environment relations in areas believed to be biodiversity retreats that supposedly evolved ‘naturally’ without human influence shed a new light on conservational issues. An example for an area often believed to be a pristine, humanly untouched paradise is the Amazonian rainforest. At the time when European colonists first saw this region they found little evidence of human alterations to the landscape and it was therefore assumed that these landscapes had been inhabited by peoples that did not develop the environment. It has been regarded as being ‘mainly natural’ ever since. Newer archaeological findings in this area, however, suggest that there have in fact been massive anthropogenic changes to the Amazonian forest in the past, but the humans that had once lived here and worked these extensive managed areas were gone before the Europeans undertook systematic explorations of this part of South America (Miranda 2007). Many researchers that reflect this new rational of the Amazon rainforest come to the conclusion that it most probably only exists in its current species-rich and spatially extensive form because humans shaped it in a systematic way. It is believed that large societies once inhabited these lands, managed and technically altered the landscape and increased the forest’s spatial extend as well it’s biodiversity richness. For some reason however, they abandoned these environments prior to the arrival of the European explorers. The garden-like landscapes once shaped by these large populations ran wild after their disappearance and transformed into what we now call the Amazonian rainforest (Balée 1994: 117, Balée & Erickson 2006: 5, Denevan 1992: 373-375, Erickson 2008: 160, Heckenberger et. al. 2003, Magalhães 2008: 410-411, Miranda 2007, Neves 1999, Sauer 1958, Scoles 2011, amongst many others). This new perspective shows that nature, understood as being something untouched and unaltered by human influence is a very hard thing to find even in a place like the Amazon. This recognition is bound to have an enormous impact on the design and management of environmental protection areas. Vested approaches to nature conservation will need to be readdressed. What is needed in this light are new, process-based ontologies to the definition of nature in order to recognize landscapes as adaptive, unfolding environments, rather than systems which were once stable and are now harmed by human influence (Jones 2009: 308-309). These new perspectives need to be of relational and processual character, meaning that environments are not seen as being something static that was once a pure and unbroken plane, but as change-based dynamic equilibriums, in which there is never a finished or original state. Newer theoretical approaches such as historical ecology

“reject the idea of nature as an ontologically pure realm that exists outside, and apart from, a separate one of human knowledge, culture, and society.” (Jones 2009: 294).

In a historical ecology perspective, current environments are seen as being the result of very long human-environment interactions, and that humans have never just adapted to landscapes they found, but have always had an active role in evolving them. The idea that

nature is something that is outside of and untouched by humans or culture is already starting to fade. What we are witnessing at the moment when observing conservational debates is the fading of a “binary division” (Jones 2009: 294) between nature and culture that has been dominating environmental discourse. Arguing from a perspective of historical ecology, there is a strong standing for the claim that the protection or conservation of a pure environment is ultimately a futile and inherently paradox idea, as humans have had a long history of co-evolving environments together with natural processes (Böhme 1992:15-24). It is becoming apparent that a variety of current environmental debates were misled by a “Pristine Myth” (Denevan 1992) when it comes to decide what exactly defines a natural landscape. It has thus become necessary to rethink both our perception of nature and the way we politicize the environment, especially with regards to nature protection efforts. The protection of nature as well as nature itself needs to be thought of as a dynamic concept, an environment which has always been shaped by humans for their desired outcomes. Nature protection is what humans make of it (Wendt 1992).

This intense and prolonged human alternation of the landscape suggests that it has become necessary to rethink currently well established frameworks such as for example that of the “Anthropocene” (Crutzen 2006). The notion of the anthropocene has been valuable in helping to recognize the extreme magnitude that human alterations to the landscape can and have reached, especially in the fossil fuel age. Nevertheless, the framework leans towards a perception of nature as something separate from humanity, a view that is starting to show some blurs on the edges. We may have to step back from approaches like that of the anthropocene in order to re-define the extent to which ancient cultures have managed, altered and shaped our current environments.

Another area beside the Amazonian rainforest that is gaining increasing attention as a place where there is (seemingly) untouched nature worthy of preservation are the ecosystems of the former Soviet Union. Especially the mountainous regions in Central Asia have gained popularity with their unique species composition and a biosphere that is adapted to very extreme environmental conditions. In this area, there is a unique ‘natural’ walnut and fruit forest, which is increasingly influenced by global conservational discourse. The walnut forest<sup>1</sup> situated in the Tien Shan mountain range in southern Kyrgyzstan is regarded as being the largest continuous woodland of this type in the world, and is often believed to be of natural origin (TWB 2002a: 8, TWB 2002b: 8-9, FFI 2009). Due to its outstanding species richness, it is also considered as being of global importance for biodiversity conservation (Ashimov 1998, Borhardt et. al. 2010: 225, Fisher et. al. 2004, Venglovsky 1998) and therefore forms part of global conservational efforts (TWB 2002a: 8, TWB 2002b: 8-9, FFI 2009). This forest is certainly a unique ecological feature in Central Asia, which is mainly marked by a treeless landscape in the form of large rangelands or steppes, partially used as pastures. Newer findings however suggest, same as in the Amazonian rainforest, that this forest has been growing rapidly since the arrival of human populations (Beer et. al. 2008).

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<sup>1</sup> The walnut and fruit forest will from here on be referred to as walnut forest for reasons of legibility, the presence of many endemic and rare fruit and herb species is always implied.

The current pressure on these forest resources appears high, as the majority of the local population had to return to subsistence economy relying heavily on forest resources to sustain their livelihoods after the collapse of the Soviet Union (Borchardt et al. 2011: 364). The area has been classified by international conservation agencies as being one of the most urgent ones to protect on the global scale (Conservation International 2014a), as many of the species in the forest were identified as being the ancestors of a great variety of fruits and nuts consumed today, such as apples, prunes or walnuts (Vavilov 1951, FFI 2009, Kolov 1998). The species types and composition are seen as an “important storehouse of wild genetic diversity” (Conservation International 2014b). Global institutions such as the World Bank support long-term projects in this area in order to protect “the unique and sensitive West Tien Shan ecosystem” (TWB 2002b: 8). Some Kyrgyz and international scientists even claim the promotion of the forest to the rank of a world natural heritage site and the establishment of a national park or biosphere reserve. This would require the reduction or complete exclusion of anthropogenic usage (Dörre & Schmidt 2008: 218-220, Schmidt & Dörre 2011: 292, Schmidt 2005a: 99).

This development is desirable and the threat of extinction of the current fruit’s ancestors is serious. It is helpful for the conservation of Central Asian endemic species that this problem is becoming increasingly recognized and that the awareness for it is rising on a global scale. Nevertheless, actions taken should be considered carefully. In regions with long-living species, such as trees, a long temporal scale is crucial for understanding and effective management (Swetnam et al. 1999: 1190). The discourse regarding the woodlands of southern Kyrgyzstan is a prime example for how a certain (mis)conception of nature and environmental history is shaping the local realities of resource utilization and relations of stakeholders and institutions, leading to tension and conflict. In this area, the Kyrgyz government, often supported by the international conservational community, wants to establish protected nature reserves in order to minimize environmental threats such as collection of firewood, cattle grazing or collection of walnuts (Ministry of Environmental Protection 1998). What seems like a good idea at a first glance could have severe negative consequences for local inhabitants, who strongly rely on the forest resources for their daily needs as well as the generation of their income. As the majority of people living near the protected forest areas had to become subsistence farmers due to the worsening economic situation after the independence, the importance of forest resources such as fire wood or timber, walnuts, wild fruits, hay and wild herbs for securing rural livelihoods has increased dramatically (Borchardt et. al. 2010, Borchardt et al 2011: 363, Dörre & Schmidt 2008: 211, Scheuber et al. 2000: 74). If the walnut forest were to be enclosed as a nature retreat then the local population would be faced with severe problems.

Even though the walnut forest had already been denominated as a protected area back in Tsarist times, humans have used the forest resources and managed its survival for a long time (Dörre & Schmidt 2008: 207, Winter et. al. 2009: 531). Same as in the Amazonian rainforests described earlier, humans have had a positive influence on the evolution of the forest. Today researchers argue that the walnut forests were most likely being shaped under human influence, rather than merely ‘surviving’ it (Beer et. al. 2008). Nevertheless researchers do not contest that the area of the forest was once much bigger than it is

today (Gottschling et. al. 2005). This is a very important point, as this leads to the conclusion that the problems the Kyrgyz walnut forests face today are not the immediate consequence of human interference, but are rather indicative of an imbalance in the human-environment-equilibrium. Future management should thus not be oriented towards the exclusion of local inhabitants from the forest resources in order to 'save' them, but rather towards finding measures to re-balance the dynamic between forest usage and forest management. In the end, the most important question is not how to protect nature that is assumed to be wild, but rather what defines a natural landscape in an area with a prolonged history of anthropogenic landscape usage and management. In order to benefit all stakeholders and sustain a 'stable' environment which can provide ecosystem services for current and future generations locally and on a global scale it is important to find appropriate solutions and not to fence off random parts of the landscape. With this in mind, the following section analyzes the case study of the forest reserve of Dashman in Kyrgyzstan in more detail. It will be examined how different definitions and understandings of the term nature can result in different perceptions on how to best utilize and/or protect natural landscapes, leading to both conflict between different stakeholders and degradation of the environment.

### **Contextualizing natural landscapes: the Kyrgyz 'wild' walnut-fruit forest**

As mentioned above, the Kyrgyz government established protected areas in several parts of the walnut-fruit forest in an attempt to reduce environmental threats. A current example of an utilized area which is in transition to becoming a protected area is the natural reserve of Dashman. This example shows the controversies between conservation and the need of utilizing forest products by the local inhabitants: While the state government attempts to implement a forest reserve, the local population lives in and from this part of the forest in order to cover their daily needs and economy. As stated by various residents born in the Dashman settlement before the 1940s (own interviews 2013) forestry officials of the Soviet Union came up with the idea to establish a forest reserve in the Dashman forest district in the 1970s. The forest reserve was finally legally implemented by the Kyrgyz national government in 2012 (GKR 2012).

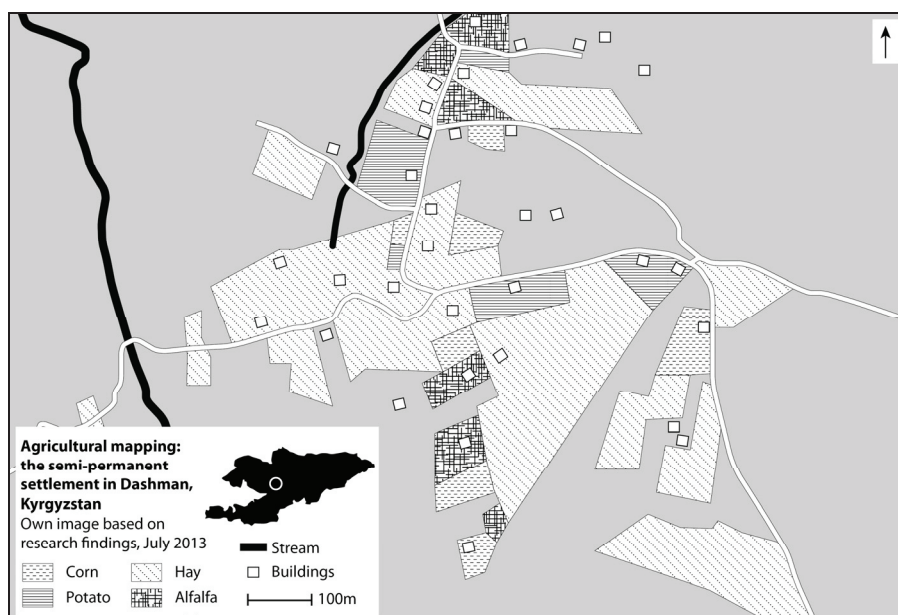
The following research will examine the conflicting situation in light of this new development faced by the local population of the semi-permanent settlement of Dashman, situated in the centre of the forest reserve. The analysis will include the strategies of how and to what extent the different stakeholders conserve and utilize natural resources and in this regard what kind of different understandings of nature the stakeholders have. In this analysis, we argue that the walnut forest is not a natural landscape any more but has become a cultural landscape through the shaping and structuring by the local inhabitants, through the existing institutional regulations as well as certain perceptions of what is and is not nature. This argumentation will be conducted further with the help of the following sections on social economy, institutional regulations and the conservation discourse.

### **Field of study & Methodology**

The Dashman reserve is located in the Bazar Korgon *Rayon* and is surrounded by the settlements of Gumkhana, Arslanbob, Kysyl Unkur and Jaradar. It consists of both a forest

area with walnut and fruit trees and a semi-permanent settlement which is located in the centre of the woodland. The forest district is classified by law as a sanctuary (*koruk*, krg.) since 2012. According to forestry officials on the province (*oblast'*, rus.) level in the region's capital Jalalabad, the semi-permanent settlement does not exist (own interviews 2013). As could be established in this research study however, the semi-permanent settlement of Dashman includes 35 family houses, which are occupied during the summer months for subsistence agriculture as well as in autumn for walnut and fruit collection. This settlement forms the research area for this study.

The research is based on semi-structured qualitative interviews with a variety of stakeholders, reaching from state-level to local actors who have strong ties to the forest and were identified through local networks. It also includes participatory observations and a mapping of the semi-permanent settlement of Dashman (Fig. 5.1).



**Fig. 5.1: Mapping of the settlement of Dashman**

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The 21 interviews were conducted with residents of the settlement, residents from surrounding villages that rent plots in the forest, local as well as municipal actors of the state forest enterprise (*leskhoz*, rus.) 'Arstanbap-Ata' and members of local as well as regional NGOs (Arslanbob/ Gumkhana: Fauna & Flora International, Community Based Tourism, Jalalabad: Helvetas, Lesik Yuk). Three spheres influencing the question of nature conservation and utilization of natural products in Dashman were identified and subsequently chosen as research domains. These three dimensions include the social economy, institutional regulations and the current conservation discourses in Dashman. These dimensions will help to evaluate the different practices and interests of the various actors in this forest district in the following sections.

### **Social economy**

As the landscape of the forest is mainly shaped by the practices of local inhabitants the section of social economy focuses on land and forest use strategies of the actors in

Dashman. It is based on the question in what way social arrangements are organized with regards to income generation through resource utilization. For this reason, several aspects were taken into consideration: In what way do people generate an income through the activities in the village and the forest, and how is this income distributed amongst those that take part in the activities? How is the local population organized socially in order to generate income through the usage of natural resources? Are products sold and, if they are, what kinds of marketing strategies are there? Are there any diversification strategies or alternative usage strategies for gaining additional funds? The social economy section was based on a mapping of the semi-permanent settlement of Dashman, as well as observations and qualitative interviews.

As could be established during the research, most of the households in the settlement of Dashman own four to six cows, three to eight chickens and one or two donkeys. They can lease two kinds of lots from the local Gumkhana-based *leskhoz*, usually for a period of five years: one lot is situated within the semi-permanent village boundaries used for a house as well as agricultural activities, and a second lot in the forest, where they are allowed to collect nuts during the harvest period.

The rent is paid in form of 10-20 kg of walnuts gathered by the tenant, paid to the *leskhoz* after the harvest period. Income is generated via a variety of strategies: The main source during the spring and summer months is the selling of dairy products such as *qurut* and butter. While men and boys are responsible for taking care of the cows, women and girls process the dairy products. The main income source for winter is the money gained from selling the collected walnuts, apples and cherries at local markets in autumn. The average yield per hectare of forest plot was stated to be around 1/3 of a ton, which amounts to around 50,000 KGS (800 Euro). The only marketing strategy identified in this research was the conventional strategy of selling them on the nearest markets (one to three hours in distance depending on transport possibility). Additionally, people grow agricultural products, mainly potatoes or corn, either for their own subsistence or for the feeding of their cattle whereby crop rotation practices and fertilizer are used for some products by some households. Hay cut during the summer months (June, July) serves as fodder for the cattle in the winter months. One household stated that they collect herbs like chamomile or pharmaceutical products such as rose-hip. Another household recently established a small shop for vernacular supplies within the semi-permanent settlement. It was stated that the shop had only recently been opened and that the income gained from it could not yet be foreseen. Overall, in each economic strategy the whole household is involved and the income is distributed within the household due to solid family structures. In some households, members gain additional income through working abroad and sending remittances. An interesting finding was that some *leskhoz* officials themselves rent a plot within the reserve-boundaries: two of the 15 households interviewed for this study were headed by a member of the local *leskhoz*.

In almost each economic activity it could be observed that there are different social organizational structures in order to fulfil the activities more effectively: As each household owns at least one cow the inhabitants are organized in a way that each household sends one or two men in a rotation system to take care for all the cows of the



settlement on the nearby pastures. The hay-making process is also a shared community and family work: All men cut, transport and store the hay in small groups while women prepare and cater food and drinks throughout the day. During the collection of the walnuts in autumn the work is also shared between household members. Furthermore, the inhabitants share the available water from the mountain river through a flexible water irrigation system. To build this system, which is basically a digged channel system in the floor and can be led to each field, either a person is paid by each household at the beginning of the season or it is conducted in community work. These organisational structures show that the inhabitants of Dashman have developed strong social structures in order to gain more economic benefits from the natural resources and reduce the work load to each household. They also take precautions to spare the forest from the pressure of grazing cattle by making sure that the transport of cows to pastures is organized and manageable.

The social economy of Dashman is mainly influenced by family structure and a strong supportive neighbourhood. In conclusion, the households in the settlement and the inhabitants from the surrounding villages shape the forest environment for their economic needs and influence huge parts of the reserve district through their socio-economic behaviour, namely through meadow cutting as well as collection of firewood, herbs, fruits and nuts. In the domain of social economy it could be observed that the natural landscape of the forest has become a cultural landscape over time. Today, socio-economic challenges such as poverty make local inhabitants highly dependent on forest resources (Jalilova & Vacik 2012: 210, Schmidt 2005b: 30-31). Also the missing infrastructure forces people to use forest materials such as firewood. Local inhabitants are mostly aware that firewood collection can lead to biodiversity loss (Jalilova & Vacik 2012: 211), but without other ways to generate the energy needed for their daily lives they are left without alternatives.

### ***Institutional regulations***

This part focuses on how institutional regulations shape the cultural landscape of the walnut forest, examining the decision-making processes in the village of Dashman as well as the influence of external actors. The aspects studied here include: How is Dashman organized on an institutional level? What kinds of local networks are there? What role do local forestry officials play? How do they influence the decision-making processes? How does the institutional landscape shape the discourse surrounding the usage/protection of the wild fruit and walnut forests in Dashman and especially the semi-permanent settlement?

Protection concepts have a long history in Central Asia. In 1917, Kyrgyzstan became part of the Soviet Union, which lay a strong focus on nature protection through a well-linked network of protected landscapes of varied classifications (Dörre & Schmidt 2008: 215-216; Schmidt & Dörre 2011: 291-292). After independence in 1991, the Kyrgyz Republic took over most of the Soviet concepts of nature conservation and anchored them within national laws, while at the same time trying to achieve compatibility with international standards. However, the sudden lack of financial and human resources after the end of subsidies from the USSR, the strength of the Kyrgyz government to implement and maintain these protection concepts soon started to fade. The forests are still fully owned

by the Kyrgyz government today and are managed by seven *oblasti*. On the local level, 40 *leskhoz*y are accountable for the forest management and the land distribution (Jalilova et al. 2012: 33).

The decision-making process of the legal institutions in the semi-permanent settlement of Dashman can be regarded as a strict top-down approach in which almost every main decision is regulated by the Dashman forest office of the *leskhoz* in Gumkhana as well as other state institutions like the state agency for environment and forest protection. There is, however, a lacking influence of these institutions in the reality of the forest usage. Most forest protection measures are never implemented, as the control over the territory seems impossible, given the extremely low capacity of the local forestry authorities with regards to human, infrastructural and financial resources (Schmidt 2005b: 35; verified by own observations 2013).

One problem identified in this section is that almost all parts of the forest seem to be rented out by the local *leskhoz* for nut gathering (statement by *leskhoz* officials). As tenants have to pay back part of their harvest for rent, the pressure on the forests is high due to the extensive usage. The nuts that tenants pay as a form of rent for forest plots are managed by the local *leskhoz*. Some officials stated that the biggest part of it is sold (currently to export markets in China and Russia), but some it is also used for the breeding of seed plants for the rejuvenation of the forest.

With regards to rules and regulations a definite top-down institutional structure could be observed. Local actors seem to have no participatory possibilities. New laws are decided on a national and regional level, forest users merely have the possibility to take part in meeting where they are informed about new regulations. It was stated by actors working for the state agency for environment and forest protection and for the Dashman office that laws were not given out in printed form to local inhabitants. This means that they have no possibility to get full disclosure about the details of the regulations, which is surprising.

Even more puzzling was the statement of an official in the Jalalabad-based state agency for environment and forest protection, who claimed that there was no state forest office in Gumkhana, which was odd since we talked to many officials who worked there. In light of these findings, the institution regulations were almost impossible to entangle. Assuming that local forest users are in the same situation, not knowing what to believe or where to find reliable information, it must be assumed that state-institutional regulations have a limited impact when it comes to conservational efforts. The regulations seem to work well with regards to economic enterprises, but were not found to be present in every-day conservation realities. Local people confirmed this when stating that they did not feel like the government was trying to implement any new measures.

This is in congruence with findings from other studies. A study concluded that in the region of Arslanbob, which is a neighbouring town where many of Dashman's inhabitants live during the winter, 76 % of the people questioned (n = 142) were not aware at all of any conservation efforts being carried out in their region (Jalilova & Vacik 2012: 210). In addition to this hardship, there are no NGOs working in the semi-permanent settlement of

Dashman directly. The official institutional landscape is thus concluded to be of very limited character.

### ***Local conservation discourse***

In regard to the third dimension of local conservation discourse, the main focus lay on what kinds of understanding the different stakeholders have, both of the issue of conservation of the forest and of the issue of a perceived level of threat and degradation to the forest. Questions posed in this part of the study include: Who aims to turn the forest into a natural reserve area? Who would gain and who would be disadvantaged if the forest is turned in to a reserve? What kinds of arguments are being presented?

The rationales or ‘micrologics’ of farmers and other resource users are a useful perspective for understanding the current usage of forest resources, as these actors are at the very base of what is happening on the ground (Zimmerer 2006b: 326). They are also often the ones most able to identify small changes in the environment (Zimmerer 1994: 118). A study carried out in the area of the walnut forests showed that local people, regardless of their level of education were very knowledgeable about the causes for environmental degradation, such as biodiversity loss (Jalilova & Vacik 2012: 210). They were found to be able to find appropriate management strategies to overcome these problems (Jalilova & Vacik 2012: 204).

The different stakeholders have a variety of understandings of what the establishment of a reserve would entail and how it should be implemented. While the official of the state agency for environment and forest protection in Jalalabad mentioned that the state government in Bishkek recently passed a law denominating parts of the forest area even as a national park (to which access would be restricted completely), most of the inhabitants of the Dashman semi-permanent settlement envision a very different kind of forest sanctuary, which would still allow the usage of forest resources.

A study concluded that 95 % of local inhabitants of the walnut forest classify the forest resources as being “[...] important for their livelihood, regardless of the accessibility of resources and the ongoing activities in the forest.” (Jalilova & Vacik 2012: 207) They form an important part of their livelihood strategies (Schmidt 2005: p. 36) and are thus the most crucial factor when discussing local conservational discourses and perceptions.

### **Research Results: Inclusive management through local forest users:**

#### **Conservation with development**

In conclusion, while biodiversity and genetic resource conservation concepts are still a priority for the international community and the Kyrgyz government, the importance of forest resource utilization for the local and regional populations and economies remains. So far, the conflict between resource conservation and income generation could not be reduced. Possibilities for alternative strategies include the support of alternative livelihood and income strategies such as for example bee-keeping for honey extraction or tourism. Also advisory services for the diversification of forest usage could be possible. A high availability of herbs like chamomile, lemon balm, peppermint, oregano and sage could be observed (own observation July 2013). What was interesting was that these herbs

mainly grew in areas that were not being used for hay-making; therefore it would seem possible to collect them without interfering with already established practices.

Examples from other mountainous areas show that a sustainable extraction of wild herbs is possible (example: contract-collection of wild *Arnica Montana* for the German company Weleda see Meyer & Straub 2011: 55). International standards and certifications for wild herb collection have been developed (BfN et. al. 2007, Leamann 2006) and could be applied here. The most prominent finding of the here presented study is that a good, context-specific compromise has to be found, eliminating the dichotomy of conservation vs. usage. Cultural landscapes should not be seen as something negative but as a way to maintain the forest through the management by the local people. Problems like the missing rejuvenation can be solved through improving the already existing management instead of prohibiting the use of resources altogether. For example, young walnut trees look very similar to plants used for animal fodder or hay and are easily cut down by accident during hay making. A better protection of saplings (e.g. by fencing) through local management could offer solutions.

If practical solutions can be found then the forest can be conserved while and the local people can still use the forest resources for their daily needs at the same time. It is time to embrace a new concept for this area, where conservation is achieved through the sustainable usage and management of resources, rather than being seen as two opposed concepts. Forests play an increasingly important role for the subsistence livelihoods especially of poor people, who highly depend on them for their daily needs and survival strategies (TWB 2002a: 2). Forbidding them from using their local resources in order to serve some global conservational goal cannot be the solution. These people, more than anyone, have an interest in sustaining their live-supporting forest resources. They need to be given a chance to have the capability to use and protect their resources in a sustainable manner. Today there is an increasing effort to see the conservation of nature and human development as two aspects of the same medal; as two strategies that must be looked after in unison and planned together. This is a desirable development and again shows that our views on our environment are changing. What can be observed is a shift from a pure biodiversity-centred view to a more sustainability (of usage) focused approach, in which it is intended to integrate agriculture and resource utilization with conservational goals (Zimmerer 2006c: 65). The increasing adaptation of the “conservation-with-development” (Zimmerer 1994: 118) perspective highlights the above mentioned need for the inclusion of new, process-based theoretical approaches. Only in a perception where the nature-culture divide is broken up through the application of entanglement- and process-based approaches there can be a possibility in finding solutions that help manifest the two very distinct goals of environmental conservation and human development.

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