Pasture Management Planning in Tajikistan

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Content

List of Acronyms

ACTED	Agency for Technical Cooperation and Development
ADB	Asian Development Bank
CBO	Community Based Organization
DM	Dry Matter
ELMRLP	Environmental Land Management and Rural Livelihood Project (funded by World Bank)
FFS	Farmer Field School
FLERMONECA	Forest and Biodiversity Governance Including Environmental Monitoring, project consisting of three components: Forest Law Enforcement and Governance in Central Asia (FLEG Central Asia), Ecological Restoration and Biodiversity Conservation in Central Asia (ERCA) and Environmental monitoring in Central Asia (MONECA) http://naturalresources-centralasia.org/flermoneca/
IFAD	International Fund for Agricultural Development
IWSM	Integrated Watershed Management project
PDLP	Pasture Development and Livestock Project (Project funded by IFAD)
PMP	Pasture Management Plan
PRA	Participatory Rural Appraisal
PUU	Pasture Users Union
SDC	Swiss Development Cooperation
TJS	Tajik Somoni (November 2016, 1 USD = 8.3 TJS)
PMNP	Pasture Management Networking Platform
WB	World Bank

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SUMMARY

At the request of the Pasture Network in Tajikistan, a brief study has been carried out to identify the outlines of pasture management plans used by Pasture Users Unions and to collect experiences the environmental land management projects in various parts of Tajikistan have with implementing these plans. The study consisted of a documents study, field visits to three PUUs, interviews with implementing staff of two projects and a validation workshop with participants of the pasture network in Dushanbe.

Major study findings are that Pasture Users Unions (PUU) are capable to develop and apply Pasture Management Plans with project support and external experts. Pasture plans are effective tools to improve community pasture management practices and increase benefits derived from livestock keeping. Major recommendation is to simplify the template for pasture management planning and adjust per local situation and needs.

Rather than proposing a uniform template, we propose to follow certain principles in Pasture Management Plan (PMP) development. These principles are

(1) Before starting the process of PMP development, take sufficient time to get to know the community situation and its pasture and livestock situation, its environment and work on capacity development of the PUUs first, whilst gaining trust of the livestock keepers in the process;
(2) Use a simple enough template, which PUU members understand and fill themselves and which they will be able to revise without the help of outside experts;
(3) Use predesigned tables, which are easy to understand;
(4) Do not restrict the PMP to pasture management, but plan for livestock management measures like vaccinations and deworming and include investments in infrastructure like cattle roads and waterpoints;
(5) Use simple formulas for calculations to balance number of animals and their fodder requirements;
(6) Do not apply a theoretical, but a practical oriented, field based approach towards training PUU members in PMP development;
(7) Build in easy to measure parameters for measuring effects of the measures proposed in the PMP;
(8) Do encourage investments, not only in typical pasture management measures, but also think about labor saving agricultural implements, infrastructure to boost income from animal off-take through marketing and/or processing.

A basic PMP template is proposed, which could form the basis for adjustments. This template can be adjusted per regional pasture situation (e.g. high altitude or lowland pastures), PUU preferences and per project needs and wishes. It consists of the components:
1-Introduction, 2-Basic information on the village, 3-Description of the pasture situation in the village, 4-Present pasture management practices, 5-Fodder requirement calculation, 6-Fodder availability and 7-Activities to improve livestock productivity.

Knowledge dissemination, facilitated by the pasture network of Tajikistan, was found to have had important impact. Training in combination with exchange visits & demonstrations came out as the most powerful model of capacity development. Costs incurred for developing PMPs vary from 2-3,000 USD per plan. However, these costs estimates are based on only two projects.

1 Introduction

1.1 Background of the study

Livestock plays an important role in the mountainous landscapes of Tajikistan and is part of the survival strategies of the poverty stricken rural population. Overgrazing, especially in the immediate vicinity of villages, places a significant pressure on the estimated 3.5 million hectares of communal pasture lands and leads to serious land degradation, puts the livelihood and food security of the rural Tajik population at risk and in many cases, contributes towards the flood risk to which downstream villages are exposed. The problem is particularly widespread in valleys and near villages of the Khatlon and in the Sughd regions.

Despite the adoption of the March 2013 pasture law (which sets the framework) in Tajik parliament, community based controlled grazing mechanisms are not yet widespread. Main reason is the absence of by-laws, regulating the enforcement of sustainable pasture management by a government designated pasture agency. Another flaw is that the present law does not define in detail how PUUs will work and the tasks they are expected to perform[1]. This unclarity leaves room to various interpretations and is enhancing the personal interest of individuals, rather than enhancing the interest of vulnerable rural communities. Formal allocation of pasture land to PUUs, therefore remains a cumbersome process and next to that, PUUs report being unnecessary taxed by local authorities (Jamoats).

Because of this, various development projects in Tajikistan have invested in the establishment of PUUs, which in turn have put a lot of efforts in the development and implementation of community pasture management plans[2]. Experiences with developing and implementing these plans have not been captured since the February 2015 workshop, organized during a conference of the Pasture Management Networking Platform (PMNP) of Tajikistan. During this workshop a pasture management planning session was conducted, where projects presented their pasture management planning templates and tools. Major conclusion of the 2015 conference was, that *planning tools should be adapted to the different geographic location, in relation to the specific social situations and pasture types*.[3]

The PMNP[4] requested consultant to make an inventory of the various approaches towards pasture planning used by the current projects in Tajikistan, notably the templates presently being promoted, in developing and implementing pasture management plans by PUUs. During a workshop organized by the PMNP on 15th November 2016, strengths and weaknesses of the various approaches used in Tajikistan have been identified. Consultant looked particularly at the costs made for developing the plan, practicability and knowledge needed for its implemen-

[1] Per the 2013 pasture law, recognition of PUUs as legal entities allows whole villages or groups of households to jointly lease land from the state and participate in medium and long-term pasture planning next to performing capacity building and settling of land disputes tasks

[2] It is generally assumed that sustainable land management will substantially benefit both the economy and people's livelihoods in Tajikistan

[3] Mission Report "Support to GIZ-FLERMONICA organized Tajik Pasture Management Network Conference", GIZ-FLERMONICA, 6th February, 2015.

[4] Tajik Pasture Management Networking Platform consists of governmental and non-governmental stakeholders and serves as forum for dialogue and knowledge exchange between its members. A regional (Central Asia) pasture network was launched in March 2016 as a platform for exchanging information. All the members can use an online data management system and tools named K-Link http://www.naturalresources-centralasia.org/index.php?id=47

tation and was asked to recommend an ideal format for PMPs and modalities for its implementation.

1.2 Activities implemented

Consultant undertook the following activities related to this study:

- Studied pasture management plan templates and project reports of the various projects describing experiences with pasture plan development & implementation;
- Developed a checklist on the experiences with developing PMPs and its implementation, which was used for interviews with chairmen of three PUUs;
- Conducted interviews with key project staff of Environmental Land Management and Rural Livelihood Project (ELMRLP) and Agency for Technical Cooperation and Development (ACTED), who are involved in the development and implementation of PMPs;
- Carried out field visits to Pasture Development and Livestock Project (PDLP) project initiated PUUs of Tutu village in Balchoby Jamaot and PUU "Shaidi Bobokhon" in Dehibaland Jamoat, both in Muminabad District and field visit to (ADB project initiated) PUU Obi Sangbur in Jamoat Obi Sangbur in Faizabod District;
- Organized and facilitated a one day workshop in Dushanbe, on 15th November, 2016, for members of the PMNP, to validate the first findings of this study, gather additional information and formulate some recommendations for future use of pasture plans;
- Drafted a report based on the activities carried out as described above.

2 Key issues related to pasture management plan development and implementation

In chapter 2.1 we describe the main findings on developing pasture management plans in Tajikistan and in chapter 2.2 we report on the (limited) experiences made so far with pasture management plan implementation.

The key issues described in this chapter are (1) based on the interviews with staff of ACTED, Caritas Switzerland and the World Bank (WB) funded ELMRLP projects and (2) studying project documents received from ACTED, Caritas Switzerland in Tajikistan, International Fund for Agriculture Development (IFAD) funded PDLP, and (3) based on interviews with the chairmen of 3 PUUs, as referred to in 1.2.

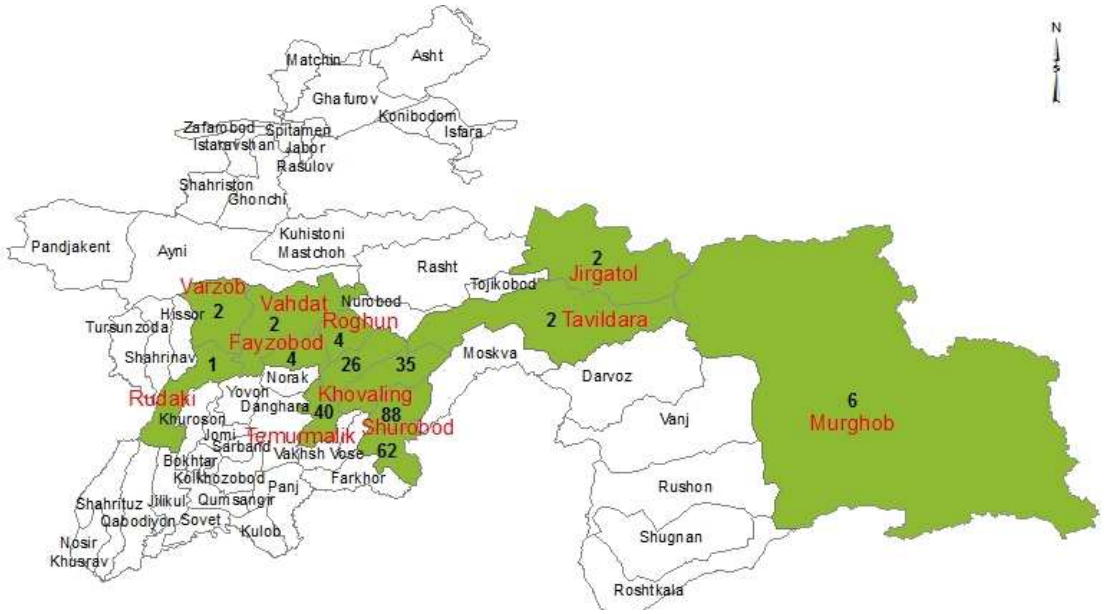
2.1 Issues related to pasture management plan development

In this paragraph, we describe (1) why PUUs are established, how they are functioning and why they chose to make a pasture management plan, (2) the process how Pasture Management Plans (PMP) are made and (3) the templates used.

2.1.1 PUU establishment and motivation for PMP development

The map below provides an overview of the districts where the environmental land management projects of ACTED, Asian Development Bank (ADB), Caritas Switzerland in Tajikistan, PDLP and the ELMRLP projects are located. All these projects are engaged in the establishment of and provide support to PUUs and are or have been facilitating pasture management plan development.

Fig 1 Geographical distribution of PUUs in Tajikistan as per January 2016 (source PMNP)



Compared to the February 2015 inventory, the number of PUUs in Tajikistan have increased considerably, from 177 to 274 in November 2016. In accordance with the 2013 pasture law, PUUs can be formed at village, jamoat and district level. The number of households who become member of PUUs, vary with the level at which they are organized. Majority of the 274 PUUs have been formed at village level and on average they have a few hundred livestock keepers as members. Most PUUs have already registered themselves in accordance with the pasture law or they are still in the process of doing so.

PUUs function independently and have elected board members to represent the interest of the member livestock keepers. PUU members gather on a regular basis (monthly-bimonthly, depending on the season), to discuss daily affairs related to herd management. This includes the distribution of tasks related to the herding. Most common system is that each family in the community takes its turn, in the responsibility to take the herd to the pasture. Normally one of the PUU board members is assigned as the responsible shepherd, whose task it is, to give daily instructions to the family on duty, where to take the community herd. Another important task of PUUs is, to initiate activities that will improve the pasture condition in the longer term and thus improve the benefits coming from livestock keeping.

Since the adoption of the pasture law in March 2013, many village livestock keepers have organized themselves in Pasture User Unions to increase control over their pastures and with the aim to improve community pasture management. Through these PUUs, implementation of rather simple, but effective measures have been effectuated: restricting the grazing period and enlarging the pasture area through construction of watering points and/or road rehabilitation.

Given the general poor conditions of pastures, one of the first activities carried out by PUUs, is usually to develop a pasture improvement plan. Motivation for making a pasture plan comes from the perception, that benefits from livestock keeping are decreasing. This is attributed to the poor state of the pasture lands, due to overgrazing. All PUU chairmen whom we

interviewed, expressed concern about the future of livestock keeping and were convinced, that if no measures are taken, their children will no longer be able to enjoy the benefits from pasturing animals.

Fig 2Low productive communal pasture land in Muminabod district (photo by consultant)

This concern is aggravated by the current tough economic situation of Tajikistan. Over the last few years, remittances from migrant workers follows a steep downward trend. In mountain regions, there is an extra argument to engage in pasture restoration activities. It is widely accepted that pasture degradation is increasing the flood risk of downstream villages. The chairman of PUU Obi Sangbur narrated that only very recently (May 2016) the damage caused by flooding in their village amounted to USD 50,000. Improving pasture conditions will increase rainwater infiltration and is considered as an effective way to reduce downstream flood risk.

Fig 3 Situation at the river passing through Dehibaland village, where PUU Shaidi Bobokhon is nowadays playing an important role in the downstream flood damage reduction (photo by consultant)

An important reason for livestock keepers to organizing themselves into PUUs, is the opportunity it provides to acquire legal access to pastures. This as a response to the present trend of pasture privatization. In the case of 2 Jamoats in Muminabad district, covered by the Caritas implemented and Swiss Development Cooperation (SDC) funded Integrated Watershed Management project (IWSM), PUUs consist on average of 125 households, managing around 225 hectares of pasture land per community. Out of the 19 PUUs, 7 have certificate for legal access to pasture land and 11 of them have a lease agreements and are still in the process of acquiring a certificate. Not only gaining access to pastures is important to the livestock owners, but also securing formal, long term, access to pasture land through certification. Securing long term access to pasture is important, as it is an incentive for long term investments, enabling sustainable pasture management.

Fig 4 Women participating in pasture use planning in PUU Obi Sangbur (photo ADB)

The chairmen of the PUUs reported having good connections with the local authorities (Jamoat and Districts). Although practices differ, PUUs play a role in pasture fee or in tax collection, on behalf of the Jamoat. In many districts the PUU Board membership is reportedly 40% female board members. However, the active participation of women depends a lot on the region. In Obi Sangbur, we were assured women played an active role in the PUUs and received special training

from the ADB project. Although women normally become members of the PUU and are represented in the board, their active participation is not always assured, when this is not explicitly put on the agenda. This was stressed as important as there is widespread agreement about the significant contribution of women towards livestock keeping and pasture management.

Fig 5 Chairmen of PUU Obi Sangbur (photo by consultant)

In many instances PUUs are seen by others as agents of change. Not only because they give (the much needed) voice to the livestock keepers and enhance their empowerment, but also because they take up issues of common interest which are benefitting the whole community. Various examples were given during this study. This can be as simple as organizing a mass vaccination campaign for all livestock in the community. But it can also be repairing a bridge or rehabilitating a road which facilitates access to pastures, but can also easy the life of the villagers. Many of the successful PUUs enumerated the importance of income generating activities, such as tractor and agricultural machineries renting services. Engaging in such type of activities, benefiting a whole community, gives a lot of status to the PUUs and helps to gain respect and makes it easier for them to engage community members in pasture restoration activities. Having an own office was also seen as a good development, as it increases status and visibility of the PUU.

Several constraining factors faced by PUUs are poor leadership, outside interference with the community pastures (e.g. privatization of pastures or usage by migrant herds) and procedure of pasture certification being time consuming and costly. One PUU claims they are obliged to pay 12.000 Tajik Somoni (TJS) for certification of their pasture land, which is an amount they do not have, nor will they be able to collect in their cashbox. Funds for investments are generally lacking and therefore PUUs rely a lot on projects. However, the membership fees can be considered as low, being on average 1TJS/family per month. With such a small amount, they can cover running costs, but PUUs cannot be expected to finance investments needed for pasture improvement. This shows the need for additional income generation by PUUs, as mentioned in paragraph 2.3.1.

Fig 6 Large migrant herds, in Jirgetol, are reducing the pasture area available for community herds (photo by consultant)

2.1.2 The process of making a PMP

PUUs indicated that the value of making a pasture management plan is to diagnose the pasture situation and to create awareness among livestock keepers about the misbalance between number of animals and the available fodder resources. Community pasture management planning is relatively new in Tajikistan, but on the increase through the promotion of the various environmental land management and livelihood improvement projects, and the NGOs who are organized in the PMNP. Projects, and with them the PUUs, consider formulating PMPs an important tool to reverse the trend of pasture degradation. Because of the plan, pasture restoration activities are initiated and consequently the benefits from livestock keeping increase. It is good to realize that not only the pasture management plan itself, but also the process of developing the plan, contributes towards awareness creation amongst livestock keepers. The process consists generally of the following steps:

1. Make inventory of the communal pasture areas (spring, summer and winter pasture, year-round pasture, arable land used for pasturing) in use by the community;
2. Demarcate and map the pasture lands used by the community and indicate the seasonal use of the pasture plots, including areas reserved for hay making;
3. Estimate the yield in dry matter derived from communal and other (rented) pasture land and identify other fodder sources and quantities used (all estimated in tons Dry Matter (DM) to get understanding of the fodder availability within a season;
4. Make inventory of the heads of livestock pasturing in the respective pasture areas and the livestock kept permanent or part-time inside animal houses;
5. Make an inventory of the essential pasture infrastructures (watering points, tracks, bridges, shelters), describe their condition and mark them on the pasture map;
6. Carry out a joint assessment of the yield potential of pastures and the quality of the grasses;
7. Assess quality of the non-pasture fodder resources;
8. Describe current livestock management practices.

Fig 6PUU members of Tavildara District, practicing making a Pasture Management Plan (photo by consultant)

To make effective use of PMPs, it is important that PUUs take livestock keeping as an economic activity with a good potential to raise incomes of villagers. Next to the other roles livestock keeping fulfills in Tajik communities (energy provision, cash buffering, food security). Only then, it makes sense to introduce and invest in modern animal and pasture management practices. This particularly holds for balancing the number of animals and the amount of good quality fodder; looking at livestock solely as a survival mechanism, numbers matter and then the quality and productivity trades of animals are of lesser importance. This calls for the need to discuss the aim of livestock keeping by the whole community, before engaging in PM planning.

2.1.3 Templates used for developing PMPs

Based on the documents study we found that the various projects use different templates for formulating pasture plans. However, PUUs do not always stick to the initial template used and we noticed that the templates in some cases changed over time. In Annex 3, the tables of content of the various plans used in the projects implemented by ACTED, Caritas, IFAD and WB can be found.

The ELMRLP project is the only project who developed a manual for PUUs and their advisors, specifically for PMP development. In this manual, the components of an effective Pasture Management Plan are defined as follows:

1) Overview of basic data; this component describes who prepared the plan, livestock keeping categories and their function, pasture/crop land fodder resources and DM yields, livestock inventory and fodder requirement, comparison of available fodder resources with heads of livestock depending on the pasture;
2) Infrastructure; description of pasture infrastructure, veterinary infrastructure, infrastructure for processing and marketing of livestock products;
3) Pasture and livestock management; feeding practices, housing, breeding, disease control, marketing of products, usage of the different type of pastures;

4) Livestock and pasture improvement activities; (a) Activities required to improve livestock management (animal health, housing, feeding, breeding), (b) activities required to improve pasture production (rotational grazing, protecting pastures, pasture rehabilitation through spot planting with legumes, improving access to remote pastures, supplementary fodder production, set stocking rates), (c) investment needs & sources of funding, (d) implementation plan showing responsibilities/targets/indicators.

Between projects, the scope of the pasture plans differs a lot. The templates used by ACTED and Caritas are restricted to improving pasture conditions, whereas the PDLP and the ELMRLP templates do include also activities for livestock improvement. This makes sense, because once the quality of pasture land has improved, the desire to start using good quality animals will increase and livestock improvement efforts will reinforce the pasture improvement efforts. Hence activities related to disease control, preventive vaccinations and purchasing good quality males for breeding are included in those PMPs. PUU chairmen emphasized the importance of widening the scope even beyond livestock improving activities towards income generating activities. This provides PUUs with options to become self-sustaining, e.g. making money through renting out hay making machines or other agricultural implements.

Fig 7 A waterpoint planned for by the PUU of Sayod village (Muminabad District) and supported by the SDC IWSM project, to increase the grazing area of the community herd. Level of own contribution is 40%, easily paid for, because access to the pasture land has been secured (photo by consultant)

The PDLP template contains a rather difficult system (complicated formula) for calculating carrying capacity. The formula use may be (scientifically) very accurate, it is not easily understood by the PUU members. This jeopardizes the ability of PUUs to develop and regularly revise their PMP without external assistance. Discussions with ACTED project staff revealed that they have the same worry about the initial template used, within one of their projects. Therefore, the ACTED pasture experts have been tasked to develop a simpler template, one that the

PUU members can easily understand and utilize without the (continuous) help of a pasture expert.

As indicator for ownership of the PMP, we can use the level of contribution from livestock keepers (in cash or kind) for planned investments. The average figure was found to vary between 10-40%, which is a percentage one may expect for this type of activities. Clear indicators for measuring impact of the planned management activities and investments were missing in the templates of the PMPs.

2.2 Experiences with implementing pasture plans by PUUs

The various projects started facilitation of PUU establishment on a larger scale, a few years before or after the adoption of the March 2013 pasture law. Often PUUs received investment funds based on their PMPs, but implementation is on-going or has only recently been completed. This implies that as of now extensive experience with implementation of PMPs is not yet available, nor documented.

Those PUUs who work with PMPs already for a couple of years, indicate that they normally assess the progress on the PMP implementation during the winter period. Thus, the plan can be revised based on the experiences made in the previous season. In any case, such a review should be done before the start of the grazing season in April/May. Those who went already through such a review process, report that they made several changes, such as adding a water point which was initially not planned for, or giving more priority to rehabilitation of a road which got into a bad state unexpectedly. This on top of the regular modifications on the pasture rotation plan.

The tendency in rural communities is to keep more animals, because of the downward trend of income from remittances. In some Jamoats in Rasht, reportedly livestock numbers tripled over the last 12 years. This shows the urgency for regular review and updating of the PMPs, to maintain balance between livestock and fodder availability. However, in this respect we observed that most of the times, the choice is made towards increasing fodder availability rather than destocking. Nor do PUUs opt for a grazing fee system which encourages to keep les animals. It seems that reducing livestock numbers is not (yet) considered as an achievable option for most PUUs.

What came out clearly from this study, is that the rural communities are appreciative of the activities carried out by PUUs and are sensing the positive impact. This enhances the motivation of the PUU to continue and/or scale up their efforts and it explains their optimistic view and hope for the future.

It is too early to assess whether reviewing of the plans takes place as a routine, as most PUUs started only recently with formulating PMPs. Generally, the expected impacts of pasture improvement measures, as formulated in the plans, are estimated at 10-20% productivity and/or income improvement.

3 Resources needed for pasture management plan development

In this chapter, we describe the resources needed for PMP development and will cover (1) knowledge requirement, (2) who providing this knowledge and (3) funds needed.

3.1 Knowledge requirement for PMP development

The Training of Trainers (ToT) is a commonly used approach in capacity development for formulating PMPs; the PUU board members are trained by project experts and invited to participate in exposure visits. In turn the board members pass on their knowledge and experiences gained to the PUU members. Projects are at times also providing training to all PUU members or to a part of the group.

Majority of the topics covered during training are technical. Social skills, like how to mobilize communities, conflict resolution and establishing and maintaining good linkages with authorities are given less attention. But experiences show, that the ability of PUUs to deal with institutions, are important success factors in getting access to pastures, get the certification process completed and getting funds for investments. For all this, PUU (board) members need to have a strong commitment, maintain patience and develop endurance.

Topics which are part of the technical training are amongst others

- Familiarize with template of the pasture plan;
- Knowledge about good and bad pasture plants;
- Dry Matter yield estimations of pasture land;
- Fodder requirement calculations;
- Balancing fodder availability and animal requirement;
- Carrying capacity of pastures;
- How to implement pasture rotation;
- Scheduling pasture use;
- Pasture improvement measures;
- Feasibility calculations for investments to improve pasture performance;
- Disease control measures;
- Monitoring impact of improvement measures.

An important observation made by workshop participants is that the process of plan development cannot be taught only in a training of a few days or even a whole week. Project experiences show that the most effective way of mastering PMP development is a combination of training and coaching. PUUs then receive initial training of several days on how to make a pasture plan, to the extend the PUU feels confident enough to embark on the process by themselves. Normally PUUs request for additional help from the projects pasture experts during the actual process of making their PMP. Depending on the project staff, the expert takes the lead or takes on a more coaching role. In practice PUUs need not only skills to develop a plan serving their own needs. Often the project adds conditions to the template, which PUUs need to follow if they want to qualify for receiving project funds for implementing the plan. It is a package deal.

Not only knowledge dissemination and skill development through training is important. Training in combination with exchange visits & demonstrations (e.g. of effects of pasture set-aside or effects of direct seeding in degraded pastures) were mentioned as very effective ways of PUU capacity development.

Fig 8 Demonstration of set-aside (in this case two seasons) is a powerful tool for learning (photo by consultant)

Success of PUUs not only depends on capacity development, but good leadership is a prerequisite. Strong and successful PUUs are led by strong and inspiring leaders. This leader must be a trusted and respected member of the community and he/she must lead by showing a good example, and, must defend the community interest over personal or other individual interests.

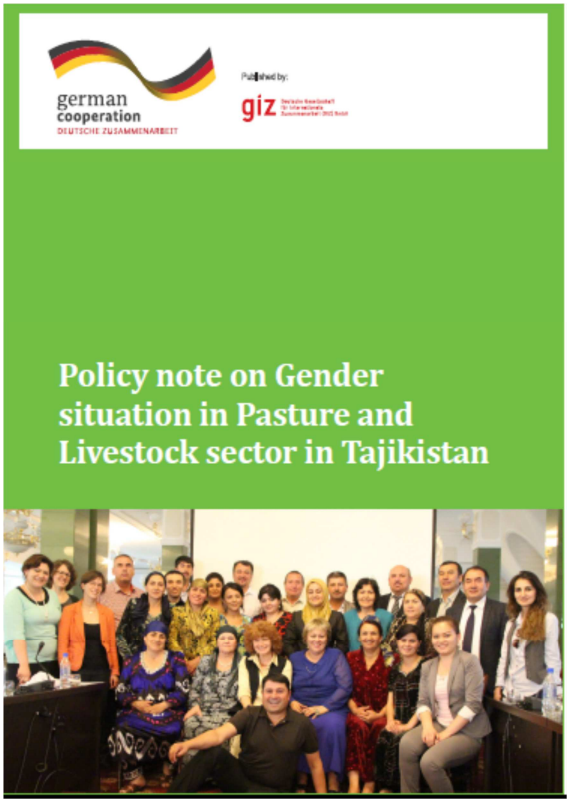
With establishment of new PUUs, at times it is a challenge to ensure that the most suitable and competent candidate is indeed elected to take on this leadership. This was mentioned as a challenge, because the Tajik culture does not always permit to exercise the freedom to choose who one wants to choose.

PUUs did not only mentioned the importance of certain topics, but referred as well to the importance of trainers. PUU chairmen believe that the trainers/experts need to be an authority. This is captured in the quote: “In case the trainer is an authority, the PUU members will be more ready to adopt ‘difficult’ messages such as balancing livestock and fodder and give pasture land a rest for a few seasons (set aside)”.

3.2 Source of knowledge

Mainly projects and project employed pasture experts and mobilizers are used as source of relevant pasture management knowledge. Also, experts of Livestock Institute of Tajik Academy of Agricultural Science or experts from NGOs specialized in pasture management are involved in training and developing methods for estimating pasture yields.

Fig 9 Some publications of the Pasture Management Networking Platform of Tajikistan



The pasture network was also marked by the PUUs and project staff as an important source of knowledge. Because the network organized various thematic meetings in Tajikistan (e.g. on PUU establishment, pasture quality, gender, etc.). Thus, they could publish many relevant materials, such as the quarterly newsletters, policy notes, a booklet on common pasture plants in Tajikistan, a booklet on estimating pasture yields, a pasture planning calendar and the like. Next to this the pasture network organized cross visits to various projects in the country which is highly appreciated. Not only the cross visits inside Tajikistan are highly appreciated, also the study tour in the region, notably the one to Kyrgyzstan was mentioned.

3.3 Cost of plan development

Pasture Management Plans are normally formulated during a period of around 3 months. During this period, several representatives of the PUU and one pasture expert assigned by the project are, on a part-time basis, occupied with the collection of information and conducting trainings and meetings with all PUU members to elaborate a plan. It is estimated that between 7-10 paid person days are require to develop a PMP, depending on the size of the pasture lands, size of the community and the complexity of the pasture and livestock situation.

The ELMRLP project spend around 2-3,000 USD per plan, for project experts developing a PMP jointly with the PUUs.

Caritas Switzerland does not only attribute costs for developing the plan, but includes as well costs for setting up a pasture yield potential demonstration site. This site is included as an important learning facility and to determine the yield potential of the pastures grazed by the community herds. These costs depend largely on the size of pasture lands and the distances that need to be covered for taking the fencing materials. Also included are the costs for partitioning the pasture land in sections to work out a feasible rotational scheme.

The total average costs for PMP development under Muminabad pasture conditions are estimated at 2,300 USD. The break down is 360 USD for making the plan, 1,800 USD for fencing 3 plots for pasture yield demonstrations (100m2) and 80 USD for dividing the pasture land into sections for determining the ideal rotational scheme. This includes 3 training days for the PUUs and 7 days for hiring an expert. This expert is hired to do 3 days of training or the PUU, assist with setting up the demonstration plots and to make ideal sub-division of the pastures.

Other projects were not able to provide exact information, because they do not have separate budget lines for PMP development.

Fig. 10 Fenced pasture area, 10*10 meters, of PUU Dehlolo, used to measure yield potential (photo by consultant)

4 Conclusions and recommendations

4.1 General

This study confirms the importance and the potential of sustainable pasture management for rural households in Tajikistan, as livestock keeping is an important component of their income generation, the food security and energy supply strategies. PUUs, play increasingly an important role in the transition towards more sustainable land management and the scope of activities is widening. A tendency could be observed of PUUs going beyond their initial mandate of improving pasture and livestock management. In many cases, have they become catalysts for community development initiatives; involvement in maintenance of drinking water systems, health infrastructure, making tractors and agriculture implements available as machine renting services to the community, promoting beekeeping and other income generating activities.

1. *Support to PUU establishment reinforces the institutional landscape around environmental and management and has a good pay off. PUUs deserve wide and continuous support, beyond the initial focus on pasture improvement interventions.*

Because of autumn season, it was not possible during this study to assess pasture conditions on the ground. Earlier visits made by consultant (summer 2016) showed that pasture situations have improve considerably, after investments were made based on forward pasture planning geared towards increasing the community pasture land area and agreeing on measures such as set-aside of degraded pastures and maintaining shorter grazing windows. Expansion of the fodder base likewise contributed towards improving the quality of pastures. Thus, PMP development and implementation can be considered as an effective tool towards pasture improvement.

2. *It is therefore recommended to promote pasture management planning using Pasture Management Plans, to document the present pasture management practices and plan activities that will lead to sustainable pasture management practices.*

Observations from the field and expert opinions made clear that PUUs are relying (heavily) on outside expertise to make PMPs. Without exception, promoters, pasture experts and users of PMPs saw possibilities to simplifying the template of the plan without losing quality and it is expected that by doing so, it will reduce the costs of developing and implementing PMPs, because it will be easier for PUUs to work with these plans by themselves and less input form experts will be required.

3. T*herefore, it is recommended to simplify the PMP templates presently in use by the projects in Tajikistan and gain experience with a simplified version of the PMPs (proposal for outline described in chapter 5).*

To give PUUs a jump start and demonstrate quick results, start-up subsidies for essential office equipment (computer/printer) and essential pasture infrastructure (cattle roads & water-points, animal shelters) play a motivational role.

4. *However, careful balance between subsidizing and not making PUUs entirely depending on donor funding is important.*

PUUs have become more aware of their rights in face of the March 2013 pasture law. In line with this law, PUUs have started facilitating the control over pasture land by securing access rights and starting certification processes. This provides PUU members with positive experience of gaining immediate benefits from investments in road rehabilitation, establishing waterpoints and other sustainable pasture management measures. Mapping pasture land and setting exact boundaries is a prerequisite for securing access to pastures and for this assistance of external experts is needed. This expertise becomes available through establishing linkages and good relationships with the relevant authorities and helped PUUs to do better pasture planning.

5. *Knowing exact pasture boundaries and securing access to pastures should be a compulsory element of PMPs, as it encourages infrastructural investments, because ownership of pasture land where the infrastructures are located, can no longer be disputed.*

4.2 Related to capacity development for PMP development

To generate support for pasture improvement measures, it is important to have basic knowledge about pasture management and livestock keeping. Therefore, in PUU capacity development it is a must to dedicate time to explain basic knowledge, such as the effects of early grazing, effect of long distance walking of cows on milk production, effects of not proper feeding of calves, effect of limited feeding and water provision and the like.

6. *It is strongly recommended to include basic knowledge about pasture management and livestock keeping in initial training for PUU members, that have a potential to trigger behavioral change into the direction of productive livestock keeping and will positively impact sustainable pasture use*.

This study and the February 2015 workshop, underscore that involving community facilitators to guide PMP development leads to effective pasture plans, which have full support of the community. Steps in plan development need to be carefully chosen (timing, including women into the process, inclusion of poorer livestock keepers) to get full participation of all pasture users.

7. *Intensive community mobilization and facilitation is required, to get optimal cooperation at community level for the activities formulated in the PMP.*

ToT is the most common approach used for capacity development for PMP development, whereby PUU officers are trained, who in turn train and coach the PUU members. This includes mostly technical topics, but social skills like mobilizing communities, conflict resolution are given little attention, whereas experiences show that constraints related to sustainable pasture management can be solved by linking to institutions.

8. *Knowledge and skills related to institutional aspects of pasture improvement needs to be part and parcel of the capacity building activities*

Practical knowledge about how to establish a more diverse pasture plant stand and basic characteristics of pasture plants is now lacking in pasture management in training.

9. *Pasture productivity loss is more than loss of biomass and hence pasture productivity enhancing training should therefore also include training on restoration of biodiversity (increase in number of edible, nutritious species and increase of leguminous plants).*

Pasture assessment (quantity and quality) emerged as important skills for PUUs to have. This is essential to have for balancing available fodder and animals kept in the community, and very basic in the pasture management planning process. Pasture performance constitutes a relevant indicator for monitoring impact of changes in management practices.

10. *Pasture assessment training should be field based and should ideally be conducted end of May, beginning of June.*

PUU chairmen strongly felt that the trainers/experts need to be an authority in their right. In case he/she has that status, they will more easily adopt 'difficult' messages such as balancing livestock and fodder and give pasture land a rest (set aside) to get the good grasses back.

11. *This call for careful selection of good quality trainers/experts with practical knowledge and experiences, who are respected by the community, have a positive attitude towards communal pasture management, are gender sensitive and can relate well with smallholder livestock keepers.*

Not only knowledge dissemination was found to have had important impact, training in combination with exchange visits & demonstrations came out as the most powerful model of capacity development, because "seeing is in many cases believing".

12. *Exchange visits & demonstrations need be part of the capacity building package, next to a Farmer Field School approach to jointly test and develop technologies for sustainable pasture use.*

Intensive Livestock management demonstrations came out as a common strategy followed by PUUs to reduce pressure from grazing lands. In a Farmer Field School (FFS) setting, demonstrations can become a powerful tool for change and increase capacities of the PUU members.

13. *Establishment of demonstration plots for alternative fodder crops such as safflower, Esparcet and fodder beets and demonstrations for improved housing need to be part of PMP capacity building activities.*

4.3 Related to PMP template

It was found that in practice PUUs often take up a role beyond their mandate to improve pasture management.

14. *Planning for pasture management improvement needs to be complemented by livestock improvement, such as vaccination programs, veterinary services & improved breeding, but may also include livestock marketing activities and/or other income generating activities as per felt need or the phase of development of the PUU.*

Templates of PMPs differ a lot per project, the same holds for systems used for estimating fodder availability and animal feed intake. Furthermore, plan development is relying a lot on external expertise, outside the PUUs. Harmonizing and simplification of rules for calculation would make plans easier to follow and of more practical use for PUUs.

15. *A more uniform and practical approach to PMP development, which can be easily adopted by PUUs, requires a simplified template as compared to the ones presently used by projects.*

Livestock intensification, like keeping 10ltrs/day cows at home and sending young stock to the summer pastures (Ailaq), is increasingly accepted as a strategy to reduce pressure on pasture.

16. *Livestock intensification needs to be included as a solid pasture improvement option in the PMPs*.

4.4 Costs for developing PMPs

Based on the study findings we may conclude that costs can vary a lot depending on the ease of use of the PMP template. In case PUUs can work out their plans, without (or wit limited input of) external experts, these costs will be less. The wider the scope of the plan, the longer it will take to develop them and the higher the costs are. However, capacity development activities geared towards cannot be avoided. Reportedly, costs incurred for developing PMPs vary from 2-3,000 USD per plan. However, these costs estimates are based on only two projects.

17. *Further study of the costs involved in the development and implementation of PMPs is required, to get a more precision regarding the minimum amount needed for PMP development. Cost will depend a lot on the pasture situation (small or vast area, registered-non-registered and availability of pasture and animal livestock experts present in the PUU and willing to volunteer their expertise.*

5 Options for a uniform pasture management template

Rather than proposing a uniform template, we propose to follow certain principles in PMP development. These principles are

i. Before starting the process of PMP development, take sufficient time to get to know the community situation and its pasture and livestock situation, its environment and work on capacity development of the PUUs first, whilst gaining trust of the livestock keepers in the process;
ii. Use a simple enough template, which PUU members understand and fill themselves and which they will be able to revise without the help of outside experts;
iii. Use predesigned tables, which are easy to understand;
iv. Do not restrict the PMP to pasture management, but include livestock management measures and investments;
v. Use simple formulas for calculations to balance number of animals and their fodder requirements;
vi. Do not apply a theoretical, but a practical oriented, field based approach towards training PUU members in PMP development;
vii. Build in easy to measure parameters for measuring effects of the measures proposed in the PMP;

viii. Do encourage investments, not only in typical pasture management measures, but also think about labor saving agricultural implements, infrastructure to boost income from animal off-take through marketing and/or processing.

Table 1 Overview of issues for uniform approach of PMP development

Issues	Templates presently in use by projects	Uniform template
Scope of the plan	Pasture management and in some cases livestock management	Pasture and livestock management always included, income generation when PUU is in more advanced stage
Practicability	Needs external expert to develop and understand the plan	PUUs can develop and review the plan with little input from external experts
Knowledge requirement	Technical orientation, agenda setting by project	Technical orientation, including essential basic knowledge. In addition, mobilizing and facilitation skills, conflict resolution and organizational skills for PUU board members. Agenda setting by PUUs
Source of knowledge	Focus on classroom based training by experts from NGOs and Government institutes, scientific orientation	Field based learning, facilitation by practical resource persons, inspiring PUU chairmen/members will train new PUUs. Experimentation and demonstration as source for new knowledge
Costs of developing the plan	Project funded	Self-financing through increase of membership fees to more realistic levels

Example of a simplified design

A rather basic PMP template has been developed by Caritas Switzerland in Tajikistan for use in their IWSM project, which could form the basic PMP template to be recommended by the PMNP. This plan can be adjusted per regional pasture situation (e.g. high altitude or lowland pastures), PUU preferences and per project needs and wishes. It consists of the components:

1-Introduction

2-Basic information on the village

3-Description of the pasture situation in the village

4-Present pasture management practices

5-Fodder requirement calculation

6-Fodder availability

7-Activities to improve livestock productivity

In annex 3 some sample tables, connected to this simplified template, are shown.

Annexes

Annex 1: ToR of the assignment

Expected Results / Outputs of the assignment

Expected results / outputs	Days allocated
1. Analyze and compare the major existing approaches on the pasture management/usage plans in various donor projects where pasture user unions had been created and tested in Tajikistan per cost, practicability and knowledge needed for its implementation (building on the insights of the related side event during the annual conference of the Pasture Management Networking Platform in 2015);	Home office: 1 day In country: 2 days
2. Develop a draft exemplary model of Pasture management/usage plan for PUUs which could be disseminated in the frame of PMNP;	Home office: 1 day In country: 2 days
3. Present the outcomes of the analyzed and elaborated approaches for pasture and livestock management planning to PMNP members in special dedicated workshop in Dushanbe and discuss the draft model; preferred date for the workshop: 15 Nov 2016	Home office: - In country: 3 days
4. Coordinate elaboration of the draft with ongoing forest management planning assignment of UNIQUE;	Home office: 1 day
5. Include feedback from workshop and forest consultants into the finalization of the standardized model of Pasture management / usage plan;	Home office: 1 day

Annex 2: Key questions on PM plan development and implementation

I On PM development

1 Perception of community on what the PM related problems are
2 Why was a plan made?
3 How the plan was made (WHO were involved in making the plan, WHAT is background/experience with PM of those involved, did they receive special training, by WHOM?)
4 What plan format was used?
5 What was the goal of the plan, what did they want to achieve?
6 How was the carrying capacity and stocking rate of the community pastures determined?
7 The context of the plan (cooperation with Jamoat, District, influence of migrant herds)
8 What were positive factors, what constraints in developing the plan?
9 What are the estimated costs, involved in making the PM plan?

II PM plan implementation

1 WHEN, WHY and HOW was PUU established?
2 How many members, WHO are members (small/large cattle owners, age, male/women ratio, what is their background/status in community, knowledge about modern pasture management)?
3 How are relationships between PUU and other key actors in PM?
4 When did they start implementing their first plan?
5 What were the steps in implementation of the plan? (WHO did WHAT, WHEN)
6 Was impact monitoring included WHEN/HOW?
7 Was the impact of the plan evaluated? HOW?
8 Was the plan revised based on a reviewed? WHAT changes were made?
9 How much does it cost for a PUU to function and do their job?
10 Are their activities appreciated by the community?
11 Do they maintain fee system which encourages keeping less animals?
12 Do they have a fine for animals that trespass into orchards/gardens?
13 What were positive factors, what constraints in implementing the plan?
14 What are recommendations on improving the functioning of the PUU?
15 What are recommendations on improving effectiveness of the PUU?

Annex 3: Overview of templates used for PMPs by environmental land management projects in Tajikistan

I ACTED: Pasture Management Plan example

Toktomush village Qizil-rabot Jamoat Murgab district

Implementation period: 2 years

Date of PMP elaboration 22.07.2016

II ADB Recommended PMP principles (ADB sector report, 2012)

1. Community pasture plan development will be a participatory process.

2. The community groups, based on certain guidelines and principles, have to prepare the pasture use plans/maps for each pasture block. The pasture use plans/maps should reflect the capacities and maximum number of livestock (by type) allowed grazing in given pasture. The pasture user groups based on certain guidelines and factors and their needs for development have to define/charge the fee per head of livestock.

3. Part of the fee paid by communities for using pastures should be used for paying the pastureland tax to the government but the significant proportion of the collected fee (money) should be used by the pasture users' groups for development and improving other pastures, remote pastures, facilities, water points repair or construction, bridges, purchase of seeds or fertilizers to improve pastures.

As indicated in Section B.6.4 working through appropriate Community Based Organisations (CBOs) is an effective means for the implementation of most field level activities. This mechanism would be relevant to most land degradation amelioration measures and livestock activities at village level. Common activities help to strengthen communities and provide a stronger platform for other developments. All the field activities discussed in this document are expected to be implemented through a Community Based Organization (CBO). As pasture management is a key issue in the future development of the rangelands the term Pasture User Committees is used. Even though land tenure aspects will take time to resolve the formation of a committee comprising sub pasture groups is a major step that can be undertaken now.

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The PUCs established by SPAFLM/RDP are in effect a sub-committee of the established mahallas. Some of the key aspects for successful CBO formation found through SPAFLM/RDP fieldwork in the establishment of PUCs in relation to pasture and livestock activities which be considered as essential during and after formation phase include:

(1) Involvement of jamoats and hukumats

(2) Initial community meetings through the mahalla

(3) Targeted simple Participatory Rural Appraisal (PRA) approaches - as necessary

(4) Adequate training and follow up user-friendly training materials

(5) Preparation of simple pasture plans, annual plans, and stipulating responsibilities

(6) Continue to provide relevant training (e.g. on conflict resolution)

(7) Encourage the development of ideas with visits to other similar groups with activities to see and discuss

(8) Continuous monitoring and provision of moral support

(9) Importantly develop and maintain linkages with other CBOs e.g. Water Users' Associations, Dehkan Farmers Association

(10) A failed organization will impact on the attitudes of the community on such attempts to form a CBO in the future, so proper support and the necessary ground work is required before launching a new CBO.

Caritas – IWSM project

1 Introduction
2 Basic information on the village
3 Description of the pasture situation in the village
4 Present pasture management practices
5 Fodder requirement calculation
6 Fodder availability

Animal Type	**# animals**	**Animal Unit Equivalent (AUE)**	**Livestock Units (LU)**
Cattle (Mature)		1	
Cattle (Immature) 1- 2yrs		0.7	
Cattle (Immature) 0-1yrs		0.5	
Sheep/Goats		0.2	
TOTAL			

7 Activities to improve livestock productivity

Animal Type	**number**	Requirement per animal/day (kg DM)	Total herd	
			Kg/day	Ton/year
Cattle (Mature) (300kg)		7,5		
Cattle (Immature) 1- 2yrs		3,75		
Cattle (Immature) 0-1yrs		1,88		
Sheep/Goats (40kg)		1,5		
TOTAL				

#	**Fodder Type**	**Total Amount (Tons)**	**Summer**	**Winter**
1	Grass from pastures			
2	Hay plot in pasture			
3	Lucerne			
4	Straw from wheat and barley			
5	Cotton Oil seed cakes (barley, wheat brand)			
6				
	Total			

IFAD – LDP project

Content

ELMRLP project

PASTURE AND LIVESTOCK MANAGEMENT PLAN, PUU «SOYARU»
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