

Evaluation of Phase-I of the “Bai Alai Programme”

Small Business and Income Creation Programme
Alai and Chon-Alai
Project # 1251.11.2.0



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Contents

Summary	4
Introduction	5
Programme Evaluation	5
Programme Context	6
Programme Design	9
Findings	14
Relevance	14
Effectiveness	16
Efficiency	24
Impact	27
Sustainability	28
Conclusion	28
Lessons Learnt and Recommendations	30
Annex 1. Terms of Reference	36
Annex 2. Documents consulted	37
Annex 3. Itinerary of the Evaluation Team	40
Annex 4. Result Chains	44
Annex 5. Livestock and Pasture Statistics	45
Annex 6. Effect Estimate Formats	46
Annex 7: Programme Logical Framework	49

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Abbreviations

AKF	Aga Khan Foundation
AVEP	The AVEP Public Fund is a non-governmental and non-political organization for rural development, see http://www.avep.info
BAP	Bai Alai Programme (working title in this report)
BPN	Business Professional Network
BWA	Business Women of Alai (Association)
CBT	Community Based Tourism
CCPP	Contagious Caprine Pleuropneumonia
CSPM	Conflict Sensitive Programme Management
DCED	Donor Committee on Enterprise Development
FTE	Fulltime Equivalent
HH	Household
JC	Jayit Committee, equivalent to Pasture Users Committee
KCBTA	Kyrgyz Community Based Tourism Association
Kg	kilogram
KNAU	Kyrgyz National Agriculture University
LED	Local Economic Development
MSD	Market System Development
MSDSP	Mountain Societies Dev. Support Program
MTR	Mid-Term Review
M4P	Making Markets Work for the Poor
M&E	Monitoring and Evaluation
NGO	Non-Government Organisation
OBTC	Osh Business Trading Centre
OC	Outcome
OP	Output
PFU	Programme Facilitation Unit
ProDoc	Project Document
PUC	Pasture Users Committee
RBHT	Roadside Business, Hospitality and Tourism
RMA	Rapid Market Appraisal
SDC	Swiss Agency for Development and Cooperation
TES	Training & Extension System Centre
ToR	Terms of References
UCA	University of Central Asia
USD	United States Dollar
VET	Vocational Education and Training
WUA	Water User Association

Summary

1. The *Small Business and Income Creation Programme Alai and Chon-Alai* is in its fourth year of implementation and nearing completion of phase 1. In order to take stock of its performance so far, and to draw lessons for a possible re-adjustment of a next phase, the programme was evaluated. This was done by a two-member evaluation team, visiting Alai and Chon-Alai districts of Kyrgyzstan in May 2017. The team visited and interviewed more than 40 project stakeholders, compared observations with written information about the project and through triangulation and analysis tried to form an opinion about the relevance, effectiveness, efficiency, impact and sustainability of the project.
2. The Bai Alai programme, as it is popularly called, is aimed at increasing income generation and employment with rural households using the M4P approach (making markets work for the poor). It has as second strategy to empower women economically, and to draw youth into jobs, to give them an economic perspective.
3. The programme is multi-faced, targeting enterprises such as beef and egg production, selling of cashmere, vegetables and where women and youth are targeted, helping these to set up businesses such as welding, carpentry, car repairs, catering, handicraft, and the hospitality business, including tourism. To do this effectively, the programme cooperates with existing service providers who are good in specific areas, such as tourism, business development, agricultural advisory services, beekeeping, and so forth. This implies that there is a multitude of project partners, all working together to achieve a common goal. The evaluation team found that despite the complexity of this set-up, the Programme Facilitation Unit is able to manage the programme efficiently.
4. At the design stage, the programme has set ambitious targets, especially in achieving higher cattle production. The evaluation team has suggested more modest targets on income generation through selling beef, aware that at present there is a virtual absence of beef production-for-a-market and that the transition to commercial beef production will take time.
5. The evaluation team has not singled out any of the activities as weak or unnecessary but suggests to scale down efforts and expectations of tractor mechanization unless clear interest is shown of present operators. The evaluation team also suggests to more clearly focus beef production and on fatteners and slaughterhouses, in line with recommendations made by the Mid-Term Review team.
6. This document ends with a series of practical recommendations.

Introduction

Programme Evaluation

7. The “Bai Alai Programme” (BAP), short for “Small Business and Income Creation Programme Alai and Chon-Alai” is to complete its first four-year phase of implementation by the end of 2017. Before entering into a possible new phase the Programme’s achievements and performance have been evaluated, in May 2017. This is the report of that evaluation.

Purpose and Scope of the Evaluation

8. The report is structured following five standard evaluation criteria¹: Relevance, Effectiveness, Efficiency, Sustainability and Impact. In addition, the evaluation team articulated lessons learnt from observations. These are provided here as recommendations for a possible next four-year phase of implementation. A full description of the Terms of Reference for this evaluation is provided as Annex 1.

Methodology and Representativeness of the Evaluation

9. The **evaluation team** (ET) consisted of Nico van Wageningen, acting as team leader, and Botir Dosov. Both have considerable experience in rural development in Central Asia and are have no prior involvement in the Programme evaluated.

10. The ET has reviewed more than 30 BAP-produced **documents**, and has requested and received additional information during its work. One document of key importance, but received at the end of the study, is an early draft of the Midline Survey, completed in May. A complete list of documents consulted is provided as Annex 2. In addition, eight Programme Partners have presented an overview of their activities while meeting with the team, after which short discussions followed.

11. The third part of the evaluation took place from May 9 to 24. The team interviewed more than 40 stakeholders, mostly in their own environment (offices in Bishkek and Osh, farms, homes, businesses and fields in Alai and Chon-Alai). A complete list of visits and persons contacted is provided as Annex 3. Interviews were **semi-structured**. The ET has triangulated² information received where possible.

12. The **selection of visits** was made by the programme facilitation unit (PFU), targeting a maximum number of stakeholders within the time available, which was short. The ET has made only slight deviations from the suggested schedule. During most visits several stakeholders were present, so that ET members could interview stakeholders independently, in an effort to avoid bias.

13. At the end of the visiting period, the ET presented preliminary findings to members of the PFU in Osh and to representatives of SDC and Helvetas in Bishkek. Feedback received during these last meetings were incorporated into this report.

¹ Criteria recommended by Development Assistance Committee at the OECD, see <http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

² Confirmed information received from several, independent sources.

Programme Context

14. The programme targets Alai and Chon-Alai districts, with as capitals Gulcha and Daroot Korgon. These districts are amongst the poorest in the country. The overall population, 99% of which is of Kyrgyz ethnicity, is about 100,000 strong³. About three quarters of the population lives in Alai, where the population density is 10 per square kilometre. The area is overwhelmingly mountainous. In Chon-Alai, the population pressure is only 5 per km², and the presence of a large plain at 2500 masl south of the A372 allows for limited cultivation of potatoes, wheat, barley and esparcet. This feature allows Chon-Alai to generate a slightly higher income per person than Alai, even though it is furthest away (450 km) from the main market in Osh. The major product sold is livestock.

Figure 1. Map of the programme's focus area. Placeholders indicate visit locations.



Source: upper map: <http://services.arcgisonline.com>; lower map: <http://mt.google.com/>

15. Labour migration out of Kyrgyzstan is an important economic factor in that remittances constitute approximately 20% of GDP⁴, and reduce the national poverty rate by some 6-7 percentage points⁵. The percentage of migrants from the South of Kyrgyzstan is relatively high, which is associated with poor market access and employment opportunities⁶: a feature of Alai and Chon-Alai. Remittances from Russia in the whole of Kyrgyzstan⁷ recovered from a 2015 dip by 60% to 1.73 billion USD in 2016. The project area is highly likely an area of out-migration too⁸.

³ Source of statistics: Wikipedia, based on the 2009 population census.

⁴ See 2011: Remittances Profile Kyrgyzstan

⁵ See 2015: Labour Migration, Remittances, and Human Development in Central Asia

⁶ See 2013: Market Accessibility and Regional Maps: Kyrgyz Republic

⁷ The total value of remittances from Russia was 1.08 billion USD in 2015 and 1.73 billion USD in 2016, according to <https://www.akchabar.kg/news/perevody-trudovyh-migrantov-kyrgyzstana-eas-snzilis-na-28> About 90% of remittances into Kyrgyzstan originate from Russia and Kazakhstan. See also: <http://thediomat.com/2017/03/a-glimpse-into-moscows-little-kyrgyzstan/>

⁸ Observations during the visit point in the same direction; an example is mentioned later in the report.

16. Although the drastic increase in number of mosques in Kyrgyzstan⁹ is sometimes associated with radicalisation of Kyrgyz youth, the factors that can lead to radicalization are, as one source puts it well, *specific and multiple, most of them are non-religious, and none of them are sufficient in and of themselves*¹⁰. Unemployment, or the lack of perspective to generate an income is likely one of the most important contributors to change – be it labour-migration, political engagement, conflict or another form of action. Other factors include *absence of political pluralism, a reliable state*¹¹. Apart from two recent terrorist attacks in, or associated with Kyrgyzstan¹², no radicalization has become apparent. However, the Uzbek-Kyrgyz conflicts in Osh in 1990 and 2010 occurred in the aftermath of political changes and because of presidential elections in 2017, the threat of a conflict is believed to be higher¹³.

17. As noted in the Project's gender study, economic power of women within and beyond the family remains weak (Table 1). This is one of the main reasons why the Programme specifically target women and youth, in addition to men, in its activities for capacity building.

Table 1. Gender roles within and outside a family.

	Men	Women	Children
Involvement in crop farming and caring for livestock	Yes	Yes	Yes
Economic power	Yes	No	No
Physical power	Yes	No	No
Relationships and Communication in families	Little	Yes	Yes
Relationships and Communication in communities	Yes	Little	Little
Involvement in Business Management	Yes	Little	Little

Source: after BAPs Gender study

18. The price of beef at the market in Osh has dropped after Kyrgyzstan joined the custom union, from about KGS 375 in August 2015 to 275 per kg of live weight in 12 months. Thereafter, the price recovered slowly to KGS 300 at present. Compared to the beef price in Bishkek, Osh prices for beef are approximately 10% lower, which may justify reaching out to the Bishkek market for selling beef. Joining the Eurasian Customs Union may have created an obstacle for export of beef to Kazakhstan and other member-states, but has also resulted in the introduction of a long-awaited system of animal identification¹⁴. The demand for wool is insignificant, due to its poor quality. Perishable vegetables such as cucumber and tomatoes, most of which are sold within the village of production, show very strong seasonal differences in price (see Figure 2).

⁹ From 39 in 1990 to 2300 in 2016, according to 2016: *Kyrgyzstan: State Fragility and Radicalisation*

¹⁰ Quoted from *Understanding Islamic Radicalization in Central Asia* at <http://thediplomat.com/2017/01/understanding-islamic-radicalization-in-central-asia/>

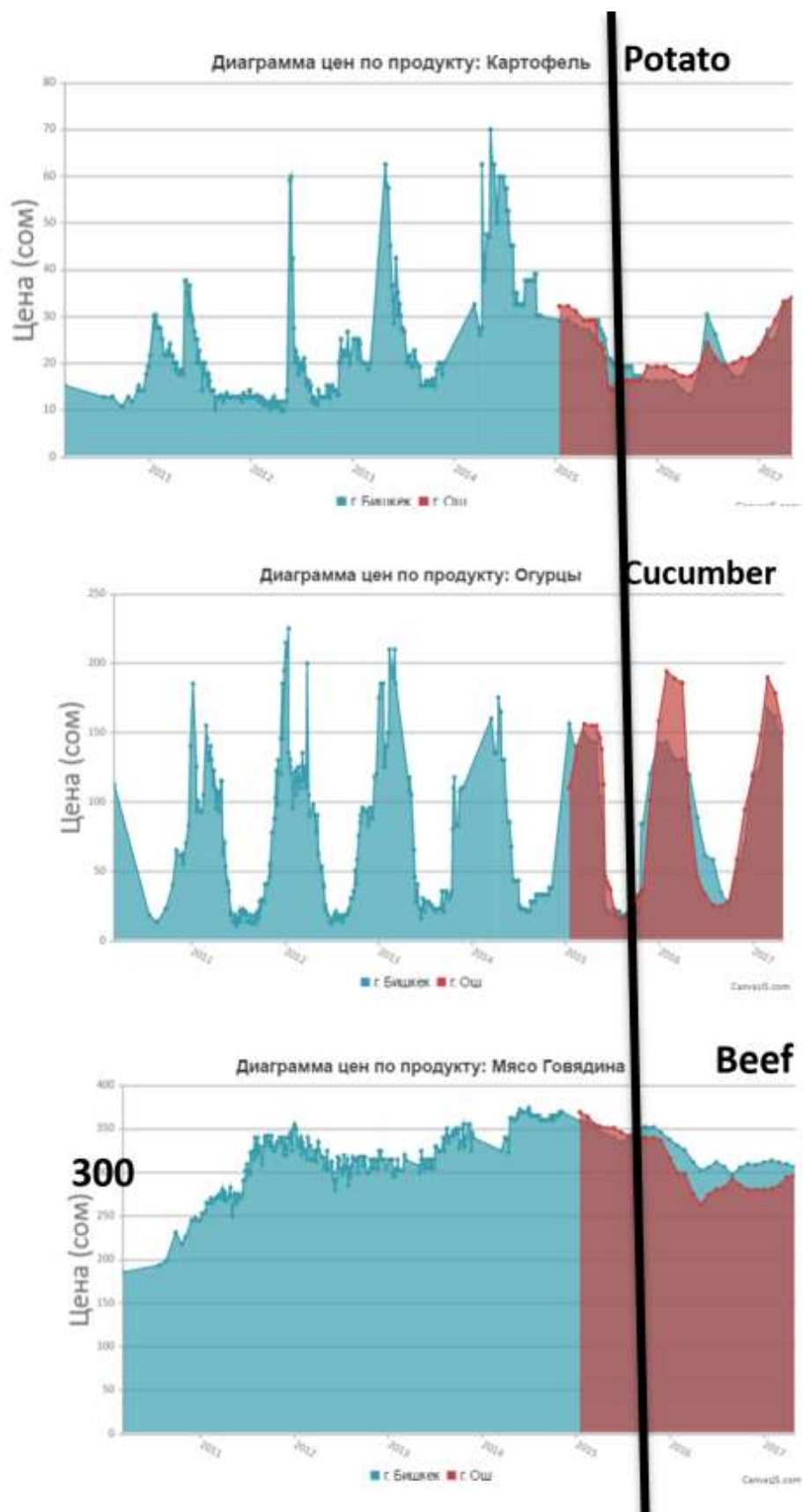
¹¹ Quoted from 2016: *Kyrgyzstan: State Fragility and Radicalisation*

¹² In August 2016, a car bomb on the Chinese embassy in Bishkek, and in April 2017, a bomb in the metro of St. Petersburg.

¹³ See <https://www.insightsonconflict.org/blog/2015/09/a-brief-history-of-conflict-in-kyrgyzstan/>

¹⁴ At present, only mature, female cattle (heifers and cows) are entered in the system being introduced. At the time of the ET's visit, about 80% of this group was ear-tagged. A well-functioning Identification and Registration system allows for better disease surveillance (tracking and tracing animals) and is one of the requirements for export.

Figure 2. Recent prices of potatoes, cucumber and beef in Bishkek (green) and in Osh (red). The vertical line indicates the moment Kyrgyzstan joined the custom union.



Source: <http://www.agro-asia.com/48>

19. In **conclusion**, labour-migration has increased again since 2015 causing a continued exodus from the country and, highly likely, from the region. As labour migration is one of the factors contributing to it, economic dependency of women has not likely improved. The chance of a new political or ethnic-based conflict remains present, assuming such conflicts are fed by weak economic perspectives and triggered by political changes. Prices of beef produced in the area suggest that the market is recovering from a shock after Kyrgyzstan joined the Custom Union in 2015. All of these observations confirm that the factors that justified the formulation of the Bai Alai Programme are still valid.

Programme Design

Objectives and Strategy

20. The programme's **objective** is to reduce poverty in Alai and Chon-Alai, by increasing income and self-employment, in particular for women and youth. To this end, BAP has adopted a so called M4P **approach**¹⁵. It hopes to achieve the objective by connecting poor households to markets through facilitation and strategic support rather than by becoming an actor in the value chain. Another strategic choice made by the programme is to seek economic empowerment of women specifically.

Situational assessment

21. The programme at the design stage made situational assessments of main opportunities and obstacles and subsequently agreed on so called **result chains**. It divided observed priorities in seven sub-areas of potential intervention and made a diagram of result chains in each. Each diagram represents assumptions on cause-effect logic. It also represents a choice: of all possible chains that lead to, or influence the final objective, this programme chose to "adopt" those chains as shown in the diagram as being the most appropriate and achievable.

22. As an example: a main area of intervention is **beef production**. Its result chain suggests that if intermediate actors were supported to do a better job, cattle would grow faster and their population would grow. Thus, private veterinarians and their rayon-level associations, pasture user committees and their rayon-level associations, water user's associations, fodder seed retailers, field mechanization services etc. have been targeted in capacity-building and sometimes investment support interventions.



23. The result chain diagrams have been changed in the course of time. The first version¹⁶ of the diagrams is of November 2015. Four of the diagrams have been adapted based on new insights¹⁷ in October and November 2016. Annex 4 provides **all diagrams current at the time of the evaluation**.

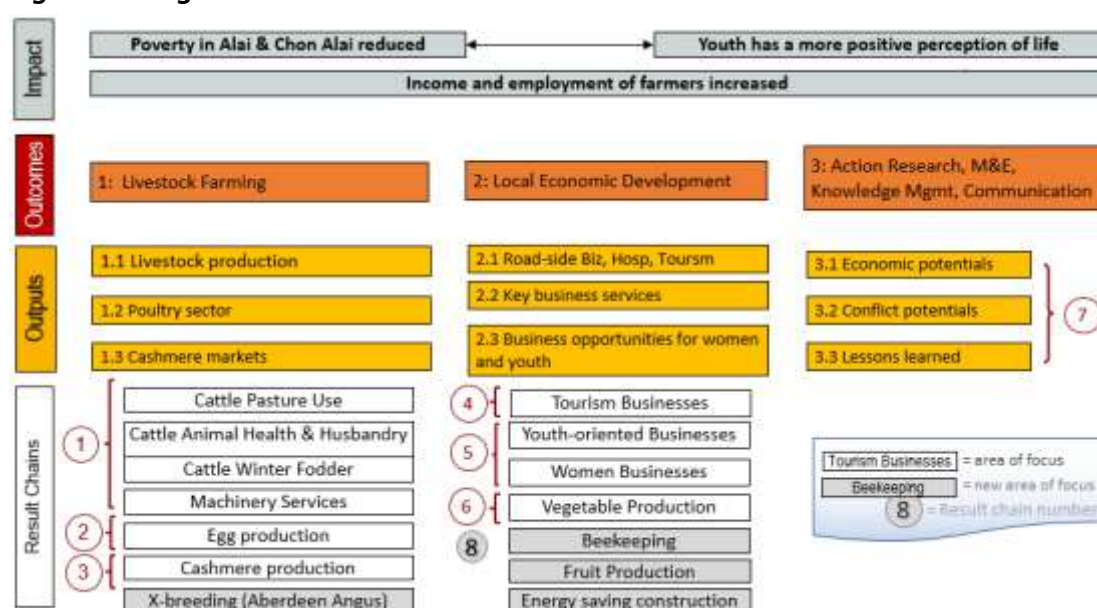
¹⁵ M4P: Making Markets work for the Poor. See for instance https://assets.helvetas.org/downloads/m4p_presentation_md_vietnam_ws.pdf

¹⁶ Ref. document 2015, "Eight Result chain diagrams"

Area and Structure of focus

24. The programme is structured in three “outcome areas”, as shown in Figure 3. It hopes to achieve results in the area of (1) livestock production (beef, eggs, cashmere), (2) in local economic development and (3) by supporting action studies, knowledge management, communication and monitoring and evaluation. The programme’s interventions are thus grouped, and are clustered by result chain. Since the Mid-term review in September 2016, the production of eggs (Output 1.2) has been discontinued, and three new interventions (beekeeping, fruit production and cattle cross-breeding) have been added.

Figure 3. Programme intervention matrix.



Programme partners and stakeholder organisations

25. The programme’s implementation responsibility is with Helvetas, and formal consortium partner is the Aga Khan Foundation. Its Mountain Societies Development Support Programme (MSDSP) is a formal **implementation partner**. The latter is largely responsible for the Cattle Production output. As the main consortium partner, Helvetas has a coordinating and facilitating role, and to this purpose it operates a **Programme Facilitation Unit** (PFU) with an office in Gulcha, employing at present five technical staff (4.6 FTE) and two supporting staff, all Kyrgyz Nationals.

26. The programme cooperates with a large number of other **programme partners**, responsible (through time-based or task-based contracts) for, or supporting, interventions with beneficiaries or clients. In Figure 4 these are listed in the second (yellow) column. Most of these partners are commercial organisations providing services to their clients on a pay-for-services basis. MSDSP is an exception in that the services it provides are mostly free of charge. OBTC is another exception, in the

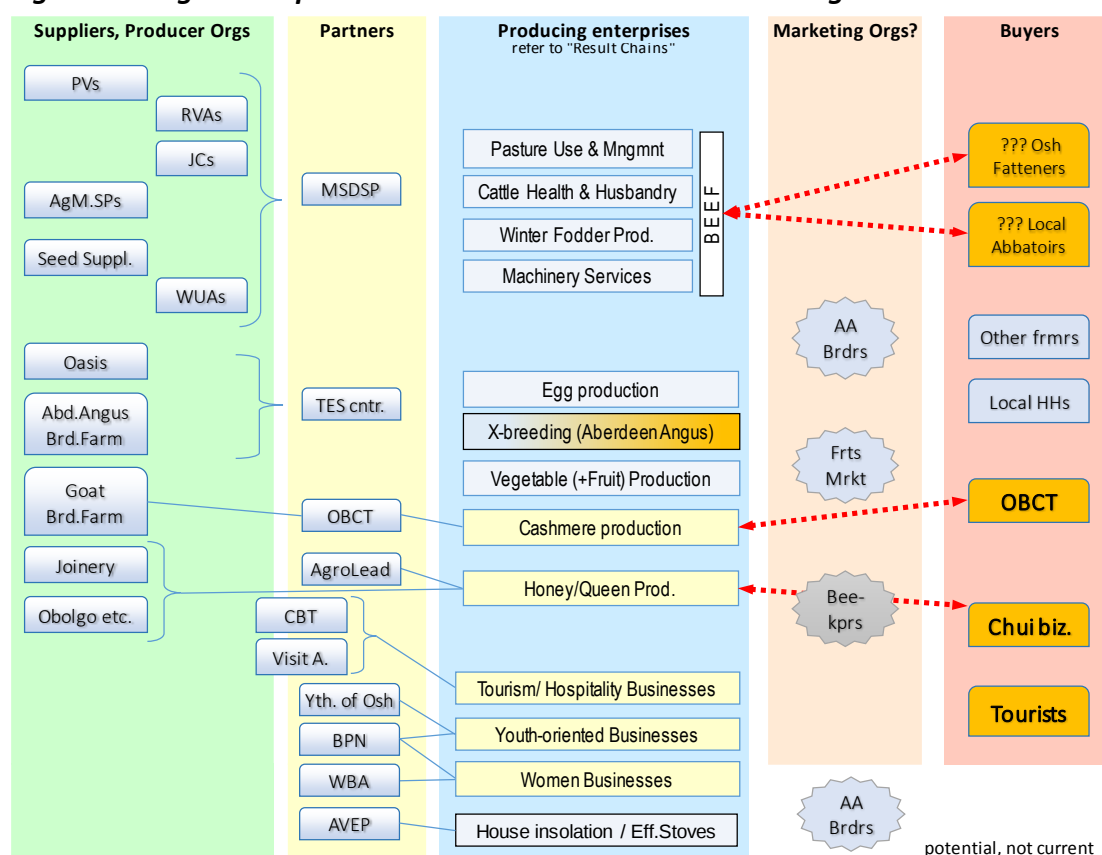
¹⁷ The suggested changes were of October/November 2016, after inputs of Maja Ruegg, Georg Felber and subsequently Peter Schmidt/ Talantbek Sakishev.

sense that it does not only provide services but also acts as buyer of the product, cashmere (embedded services).

27. The programme's partners interact with producer groups (such as Pasture Users Committees, Water Users Associations), **suppliers or service providers** (such as private veterinarians, seed suppliers) and sometimes their associations, if any (Rayon-level Veterinary Associations, Jayit Association). These are grouped in the first column (green).

28. Not touched upon in the figure below are programme interactions with local Government authorities or with other donors or projects, since the figure focusses on **commercial** stakeholder organizations or enterprises only.

Figure 4. Programme partners and commercial stakeholder organizations.



29. The programme's **ultimate beneficiaries** are households, or women and youth within households, engaging themselves in commercial production (the middle, blue, column in Figure 4). Direct income is earned through the sale of beef, eggs, cashmere, breeding bulls, honey and other bee products, vegetables, fruits, handicraft, furniture, and through tourist services such as home stays, driving, guiding and entertaining, etc.

30. The programme's scope reaches, because of its **market orientation**, beyond producing enterprises into markets (last column, red). The main programme intervention here, up to now, is market study, rather than investing in buyers (processors, clusters of consumers) or marketing organizations (breeder's organizations, fruit grading/packing/storage organizations) such as those indicated in the orange column of Figure 4.

31. At two levels, a group of stakeholders is invited to provide guidance to strategic choices of the programme. At the national level, there is a **Steering Committee**, consisting of not only representatives of SDC, the Ministry of Finance, of Helvetas and the Aga Khan Foundation, but also of other donors, such as USAID, FAO, WFP, UNDP, IFAD¹⁸. This set-up is valuable in that it provides for a communication platform from which participants can influence strategic choices of the programme and carry home information about it. The ET acknowledges the importance of this platform, which has the additional benefit that interventions of different donors can be tuned to each other where necessary¹⁹.

32. At the regional level, an **Advisory Board** has a similar function of exchanging constructive criticism on the intervention of activities. The board has 22 members drafted from project partners, beneficiaries and local administration.

Logical Framework and Measurement Plans

33. There have been several changes in the Programme's definition since its inception. Its name changed from "Small and medium enterprise development" to "Small Business and Income Creation Programme". Its **LogFrame** has not been changed²⁰ since the Programme Document. Up to the level of "Outputs" it provides the structure of this evaluation.

Figure 5. The Logical Framework, Outcome-level, with quantified indicators.

Outcomes (Farm / Sector Level Change)	Outcome Indicators	Means of Verification	External Factors (Assumptions & Risks)
Component 1: Livestock – Mid-term objective			Costs CHF 1,198,400 for Phase I
Outcome 1 – Increased entrepreneurship of selected livestock farming generates additional employment and income	- Added gross income due to Project: - Phase I – over \$1 420'000/year - End of Project – over \$2'680'000/year - Added employment due to Project: - Phase I – about 420 FTE - End of Project – about 1060 FTE - Households (%women) benefited by Project: - Phase I – over 7'400 HH benefited - End of Project – over 18'400 HH	Mid-line and endline surveys Project documents District statistics	No major political or economic turmoil takes place Local authorities and other local, regional, and national stakeholders cooperate
Component 2: Local Economic Development – Mid-term objective			Costs CHF 909,445 for Phase I
Outcome 2 – Local small and medium enterprises generate increased employment and income in selected sectors	- Added gross income due to Project: - Phase I – well over \$1'560'000/year - End of Project – over \$2'660'000/year - Added employment due to Project: - Phase I – about 200 FTE - End of Project – about 600 FTE - Households (%women) benefited by Project: - Phase I – about 400 HH benefited - End of Project – about 900 HH	Mid-line and endline surveys Project documents District statistics	Sufficient number of entrepreneurs able and willing to invest in activities promoted by the Project
Component 3: Action research, M&E, Communication and Knowledge Management – Mid-term objective			Costs CHF 312,680 for Phase I
Outcome 3 – Project stakeholders are aware of systemic constraints and take action at policy and market level to support SME development in Alai and Chon-Alai	- Research on necessary aspects done expeditiously - Monitoring against indicators, informal monitoring by feedback from stake-holders, and CSPM monitoring by the Advisory Board performed continuously - Lessons learnt are expeditiously documented and communicated - Institutional memory is regularly updated	Project records Research reports UCA Knowledge Hub	All relevant parties are willing to share information with the Project and take Project findings into account

34. The structure of the LogFrame has been consequently used in further planning up to Outcome level (Figure 5). That is to say that Measurement Plans (prepared to

¹⁸ The Steering Committee has four voting members (the first ones mentioned) and eleven participants of other organizations.

¹⁹ That this is not always possible was evidenced in the case of vegetable seed subsidies, which BAP does not provide and another donor did, in the same village.

²⁰ The ET may have overlooked a newer version of the LogFrame, as the Yearly Plan of Operations of 2016 mentions an Annex 9.4 which the ET has not studied. The full LogFrame as currently valid is provided in Annex 7.

define targets achievable and their monitoring) follow the same structure as programme components.

35. The structure of the LogFrame at the Output level (Figure 6) has been less obviously followed in Operational Plans and Measurement Plans, in that these Plans are per product group (beef, poultry, cashmere, tourism, vegetables) with the exception of two plans, which target not products but actors (women and youth). In other words, planning is done per result chain, as has already been explained in Figure 3. The differences are small, though²¹.

Figure 6. The Logical Framework, Output level, without quantified indicators.

Outputs (per outcome) and costs	Output Indicators	Means of Verification	External Factors (Assumptions & Risks)
Component 1: Livestock – Short-term objectives			Cost appr. CHF 555'000 in Phase I
Output 1.1: The production cycle in the selected cattle and small livestock farming is intensified	Increase of No. of animals of each type in Project area Increase of average price per animal (inflation adj.)	Baseline survey + district statistics Project documents	Meat prices remain favourable Marketing infrastructure will be in place
Output 1.2: The poultry business sector expanded to meet local market demands	Additional number of eggs sold in project area Ave. price of eggs (inflation-adjusted)	Alai + Chon Alai Vet Associations; Baseline survey Number & price to be specified in BS	Continued demand for local eggs
Output 1.3: Access to emerging cashmere markets is increased	Added kg of combed cashmere Increased annual income from cashmere	Osh Business Training Centre + Project documents	Cashmere prices remain favourable Lead firm or other Western buyers have demand for all production
Component 2: Local Economic Development – Short-term objectives			Cost appr. CHF 630,245 in Phase I
Output 2.1: The potential of the region in terms of roadside services, hospitality and tourism is developed	Increased number of tourists Added employments - FTE per subsector, disaggregated by gender, age and social criteria Income from all tourism in Project area	KCBTA Project records + questioning of owners	No disturbances which affect tourism (political conflicts, natural catastrophes) Road to China remains open Road to Tajikistan opened for trucks
Output 2.2: Availability of key business services is increased (incl. VET, Machinery, etc.)	50% more employed VET graduates/year, disaggregated by gender, age and social criteria Additional tons of fodder bought by farmers	VET schools follow-up of graduates District statistics Project records	Sufficient local demand for these skills Enough farmers are willing and able to invest in ag machinery
Output 2.3: Business opportunities for youth and women have increased	Increased No. of youth-owned/oriented businesses Increased No. of women-owned/oriented businesses	Project records + questioning owners	Sufficient local purchasing power
Component 3: Action research, M&E, Communication and Knowledge Management – Short-term objectives			Cost appr. CHF 100'000 in Phase I
Output 3.1: The dynamism and economic potentials of the region are well understood and documented	Number of action research studies made and published	Project records	All relevant parties are willing to share information and communicate with the Project
Output 3.2: Relevant conflict potentials and local power dynamics are closely monitored and reflected in CSPM planning	Indicators, informal and CSPM monitoring systems are up to date	Project records	All relevant parties are willing to share information and communicate with the Project
Output 3.3: Lessons learnt are systematically analysed and transformed into recommendations for policymakers	Processes established to communicate findings to local and national decision-makers	Project records	All relevant parties are willing to share information and communicate with the Project

²¹ Result Chains for Fodder production, including for Agro-Machinery, have been clustered in a large chain for Cattle Development. Result chains for cross-breeding, beekeeping, fruit production and energy saving construction have not yet been included.

Findings

Relevance

36. Improving *opportunities for earning an income* and self-employment remain highly relevant. The increased level of out-migration, extrapolated from nation-wide data, is an indication of the presently low perspectives on earning an income in Alai and Chon-Alai. A systematic search for, and facilitation services for setting up, enterprises that generate income, is invaluable as similar services within the project area are scarce.
37. The evaluation team fully supports the priority attached to *beef production*. Grazing livestock production is the pillar of the rural economy and has ample opportunity to become more productive in a sustainable manner. Both through higher productivity and, to a more careful extent, expansion of the population. Cattle are well distributed over households, which on average graze four heads of cattle and 20 sheep.
38. Meat is the most important livestock product sold²², and thus it is highly relevant for BAP to focus on. Milk and (fermented or dried) milk products are second in importance, but milk, while important for household nutrition, is a more complicated product to commercialize (remote pastures, transport challenges)²³. Wool is of insufficient quality to attract buyers²⁴.
39. The combing and sale of *cashmere* provides an excellent opportunity for many households, and women within these, to earn additional income. Cashmere is one of the few products that is sold to buyers outside the project area.
40. Completing the support of *poultry egg producers* appears to have been wise, given the small margins that can be earned at present.
41. The newly added *beekeeping* activity is highly relevant as well. By connecting beekeepers to new practices and markets, the amount of additional income from the sale of honey and other products can be considerable. Making use of the relative isolation of valleys (creating a buffer zone) for the re-introduction of bee species (and queen breeding) appears to be a positive, long-term-effect decision.
42. The pathway to support pasture user's committees (PUCs) to better manage pastures is sound too, and it is of central importance for sustainable livestock production. These are relatively new organizations with the task of improving the management of *pastures*, and restoring access to remote pastures, with as tools the issue of grazing tickets and, in close communication with municipalities, the definition and enforcement of grazing schedules. This role is anchored in the pasture law and promoted by the central-, provincial- and district governments. The

²² See the mid-line survey, *17may19 Version 2 - First Draft Report Bai Alai Midline Survey - Livestock Section.doc* page 59 for an impression on which livestock products generate an income.

²³ We fully support this conclusion the programme made at the end of the Inception Phase.

²⁴ In the past decades sheep breeding has come to a virtual stand-still. Efforts to cross-breed with Merino (a wool breed) have failed as most owners prefer meat breeds, or are not able to sell fine wool well. Wool is

opportunity for expanding remote grazing areas is large, as only 60% of remote pastures are being used²⁵. Some of these remote areas, in particular around Say-Tash, are used by livestock owners from outside the rayon²⁶. Challenges faced by PUCs and in particular the need for improvements in pasture management have been well identified (and addressed) in the form of capacity building, communication and some investment in infrastructure.

43. The recently implemented support to **crossbreeding** of non-descript (Alatoo) breed with Aberdeen Angus through breeding bulls (in contrast to artificial insemination) is seen by the ET as particularly well chosen²⁷. As an ongoing study has shown²⁸, average mature weight of cows is 295 kg, which is low. Breed improvement has been tried through artificial insemination, but with little success²⁹. Live bulls, in contrast, can serve cows at remote pastures. Aberdeen Angus has proven its worth (resilience in similar, very harsh environments, live weight gains of up to 1000 g/d, mature weight above 450 kg and up to double that for bulls). Calves of such crosses fetch a KGS 1500 to 2500 higher price at the age of 3 months.

44. Improvements in quantity and quality of **winter feed production**, and timely vaccination helps to prevent considerable loss of cattle³⁰. Targeting private **veterinarians** for training and support of vaccination equipment is very important, not only for better service provision, but it also contributes to a more serious perception of the profession, which is low at the moment when we see the rather low numbers of veterinary students.

45. **Tourism** has a potential to expand, as data of 2016 suggest³¹. Community-based tourism is likely to dis-incentivise labour-migration³². The attractiveness of the area for tourists will increase as the quality of local service providers improves, which is one of the results targeted by BAP. These beneficiaries include guest houses, drivers, guides, tour operators, horsemen.

46. Vegetable production and various examples of **small enterprises** (joinery, welding, handicraft, sewing) all contribute to direct income generation, even though most of the products appear to be sold within the village of production.

²⁵ Data retained from 17 PUCs. For details, please refer to Annex 5.

²⁶ See 2016: *Diversity of Seasonal Migration of Livestock in the Eastern Alai Valley, Southern Kyrgyzstan*

²⁷ Here we differ with a conclusion drawn in the programme's Inception Report, which attaches a lower priority to breeding. We believe that breeding activities have not only a dimension of genetic improvement, but are a good vehicle to improve grazing practices (herd separation) and marketing (touching upon fattening, which is presently not receiving much attention).

²⁸ Based on 47 cows weighed monthly between December and April, whereby the weight loss during this period amounted to 26 kg or 8%. The bull data are of nine bulls and show a similar weight and weight loss. Source: MSDSP, Joldoshibek Dadybaev.

²⁹ Several artificial insemination stations have been established in the past decade, but most are dysfunctional because the supply of liquid nitrogen was erratic, and most heats in cows occur during the summer period, when cows are on remote pastures.

³⁰ Though exact data have not been obtained, the past winter is reported to have been particularly long, and the value of hays and straws purchased from Osh and beyond has been estimated to be more than one million KGS.

³¹ See: *Presentation 2016, Visit Alai*, through which operator nearly 4000 tourists were accommodated, an increase of 16% compared to the previous year.

³² This is a generalization from a study in 2015 amongst workers in the CBT business. See 2015: *Community Based Tourism in Arslanbob and Sary-Moghul, Kyrgyzstan: An Alternative to Labour-Migration?*

47. The articulation and implementation of an **action research** component is relevant as well: there is a strong need to explore, identify, describe and predict the importance of market chains for local products. The five assessment studies that have been done (tourism, cashmere, livestock and sausage, machinery, apiculture, house insulation business) provide a basis for any further interventions.

48. In **conclusion**, the relevance of BAP is considered high: it helps seeking and facilitating opportunities for rural households to connect to markets, so as to generate employment and reduce poverty. This is done in an environment of 'deep-rural' and mostly poor households mainly dependent on livestock rearing. The opportunities that BAP focuses on are all relevant, either because they target products for a traditional market (beef, eggs, vegetables, honey) or connect to a developing market (tourism, cashmere) which is likely to expand. The creation of gainful, local employment and the creation of trading ties are factors counteracting radicalisation though other factors, external to the programme, have a large influence as well. The ET regards the programme's approach of facilitating local actors, rather than taking their place in the value chain, as particularly valuable, since it strengthens a process of development rather than provides a temporary solution.

Effectiveness

Pastures and Beef

49. Estimates of the **effect of improved use of pasture** on beef production in Alai and Chon Alai is highly sensitive to assumptions made. The results of such assumptions are extrapolated to a large number of animals and hectares. We make these estimates nevertheless, to approximate the potential effect on production. Consider this: at present, 60% of pastures in the area discussed is actually used (Table 2). We can safely assume that unused pasture plots are mainly, say for 75%, remote (summer pastures). This part of unused area adds up to appr. 150,000 ha. Grazing this area for a 90-day period with an assumed carrying capacity of 0.5 Livestock Units (cattle equivalents) per hectare³³, with an assumed daily weight gain of 300 g/head and at the current beef price of 150 KGS/kg of live weight, and not considering feed requirements in other seasons, could produce beef in the value of slightly more than 300 million KGS, say, 4.5 million USD. This number would double if a more realistic carrying capacity were assumed of one large livestock unit per hectare (busy herder scenario), or half if a daily weight gain of 150 g/d were achieved (old cow scenario). The conclusion is there is a **large potential benefit** in accessing such unused, remote pasture areas. The size of this potential benefit varies widely per municipality, as Table 2 illustrates.

50. MSDSP reports that, **actually** in 2016, 15% more livestock owners used previously unused pastures, compared to the previous year, and attributes this change to infrastructure improvements supported by BAP (access roads, bridge). We have not

³³ A careful estimate, as information from PUCs suggests average carrying capacity of 0.1 to 5.1 LLU/ha.

been able to verify this claim per municipality³⁴ but continue to use this number. We convert this number of users to livestock units (basis: 8.1 LLU/user), and assume 90 days grazing, 200 g/d of extra weight gained³⁵, at a price of KGS 150/kg, to arrive at 65,000 USD of additional, largely attributable, gross benefit.

51. In the above we have considered benefits of using summer pastures not yet used previously. A similarly rough estimate could be made for the improvement of the **quality of pasture already used**. However, this estimate is very shaky, if we consider that the number of grazing livestock units per hectare of pasture in the project area, varies with a very large factor (up to 50-fold, see Table 3). How many more animals can be grazed at the same daily growth rate, or how much can the daily growth rate be increased per animal without increasing the number of animals? BAP has set a target of a 5% increase in weight of cattle by 2017 which, if considering mature cattle only, would have a value of appr. 1 million USD.

Table 2. Selected statistics of Pasture Users Committees in the 17 municipalities.

№	Jayit Committee	a: Pasture area (ha)	b: Used area (ha)	m=b/a % used	p: # users	x: # LLU**	z=x/b LLU/ha	i=x/p LLU/user
1	Гулчо	9,918	1,984	20%	1,900	10,027	5.1	5.3
2	Ленин	32,501	2,969	9%	1,741	8,970	3.0	5.2
3	Бүлөлү	11,262	1,039	9%	481	3,049	2.9	6.3
4	Жошолу*	16,513	2,183	13%	1,700	8,858	4.1	5.2
5	Алай	21,469	2,145	10%	2,123	9,421	4.4	4.4
6	Уч-Добо*	27,679	7,840	28%	1,678	7,161	0.9	4.3
7	Сары-Таш	96,923	67,595	70%	600	5,403	0.1	9.0
8	Талды-Суу	61,394	16,047	26%	518	4,720	0.3	9.1
9	Жаны-Алай	884	619	70%	50	1,603	2.6	32.1
10	Кабылан-Кол	4,298	1,114	26%	726	3,975	3.6	5.5
11	Сары-Могол	28,214	22,707	80%	1,123	3,846	0.2	3.4
12	Корул	9,596	2,437	25%	1,755	9,601	3.9	5.5
13	Конур-Добо	7,636	1,625	21%	1,427	5,218	3.2	3.7
14	Будалык	8,277	2,070	25%	879	5,284	2.6	6.0
15	Чон-Алай*	42,180	42,180	100%	3,727	16,010	0.4	4.3
16	Кашка-Суу	84,753	84,753	100%	1,812	12,993	0.2	7.2
17	Жекенди	44,714	44,714	100%	877	18,479	0.4	21.1
Average		29,895	17,884	60%	1,360	7,919	2.2	8.1

* Pilot JCs

** LLU = Large Livestock Units (assume 1 horse = 1 cow = 5 sheep = 1 LLU). Converted from Pop.Data 2017

Source: MSDSP and Rayon Departments of Agriculture, 2017. Further data are provided in Annex 5

52. The **effect of the promotion of better fodder seed** is estimated as follows. MSDSP has worked with eight seed retailers, assisting them to purchase higher quality esparcet and barley seed from wholesalers outside the area, which was

³⁴ Note from Table 2 the column m, “% Used”, and that JCs in Chon-Alai (the last three rows) claim to already use all of their pastures.

³⁵ Weight gain of 200g/d is *additional* gain assumed. Thus, we assume that the quality and yield of the remote pasture results in this amount of extra gain, the difference of, for instance: 400 g/d compared to 200 g/d.

subsequently used by approximately 220 farmers, organized in three water users associations (WUAs). The (attributed) increase of yield in the case of 380 ha of barley is estimated at 200 kg/ha, up from 1.9 t/ha (an increase of 10%). This would represent a value of USD 15,200 attributable to BAP's effort³⁶. The effect on esparcet seed is still to be determined. The total area of fodder crops grown by the three (pilot) WUAs has also increased by 142 ha from 1135 ha in 2015. The value of this increase is similarly estimated at USD 60,000. These two effects (barley: significantly better, esparcet: no clear effect) are confirmed by the mid-line survey³⁷. An indirect effect of producing more fodder is a reduction of the winter feed problem, which is one of the main constraints to expansion of the number of animals.

53. The effect of **better veterinary care** is more complicated to measure. We suggest that increased weight gain is not a sufficiently distinctive indicator for better veterinary care. We assume that mortality of young stock is relatively high and that this is due to pressure of parasites (in combination with a poor nutritional status)³⁸.

54. **Cross-breeding** of cattle with Aberdeen Angus, using bulls, is potentially a very good tool for increased productivity (not only due to genetics, but also managerial³⁹). It is too early (no off-spring yet) to quantify the effect. Potentially the effect is significant, also because of the lower-than-expected average weight of the present breed of cattle⁴⁰. The ET calculates⁴¹ a likely gross benefit of USD 2000 per breeding bull per year, which means that with the present number of 15 breeding bulls, USD 30,000 can be achieved, fully attributable to BAP.

55. At what rate could this effect **expand**? The banking function of cattle is common: cattle is sold mainly when a household needs liquidity (80% in autumn and summer⁴²), rather than at a time when prices of beef are possibly higher. The transition to keeping cattle as a commercial activity⁴³ is a large one, therefore the pace is expected to be slow. To achieve 10% of crossbreds in a population in which cross breeding still is rare, will take at least 10 years, in the estimate of the ET⁴⁴. If 10% of the 26,000 cows in the programme's area were covered by breeding bulls, resulting in assumed benefits as mentioned earlier, a gross benefit could be derived of USD 75,000 annually.

³⁶ This calculation assumes a barley price of USD 200/t

³⁷ See: *17may19 Version 2 - First Draft Report Bai Alai Midline Survey - Livestock Section.doc* pages 54 and 114.

³⁸ This is an assumption that needs confirmation of veterinarians. As a very general rule for extensive grazing systems, any rate of mortality of lambs higher than 12% may be considered as high.

³⁹ The present livestock "Identification and Registration" effort by the Government (nearly all cows ear-tagged, according to the Rayon Veterinary Inspector) provides an opportunity to start a breeding programme, branding suitable offspring as "Alai Angus".

⁴⁰ MSDSP has started weighing 40 cows monthly and comes to an average of 295 kg.

⁴¹ See Annex 6 for details.

⁴² See the Programme's assessment report *131206 RMA Report Live Animals En for HSI-revIA.doc*

⁴³ Commercial, in this regard, means market-responsive production requiring investment, in this case in breeding.

⁴⁴ This assumption is based on experience in Bhutan, where the introduction of milk breeds with subsistence farmers happened at a rate of 1% point annually over the period 2007-2010. However, this increase of the percentage of cross-breds coincided with a small decrease in the total number of cattle.

Cashmere

56. The effect of OBTC purchasing **cashmere** from farmers in the area, on their income, is small compared to the sale of meat and milk (products)⁴⁵ but the product is much easier to market, once combed. BAP claims that before this activity started three years ago, cashmere was not often sold at all. MSDSP calculates⁴⁶ a total value of cashmere sold to OBTC of appr. USD 30,000 in 2016. At present, there is an unknown number of Chinese traders purchasing cashmere (through local buyers), thus the overall volume (OBTC-purchased plus Chinese traders-purchased) sold by goat owners is higher than what's known to the BAP. The price paid by OBTC is approximately 20% higher⁴⁷ than the price paid by these collectors. Not counted in the benefits are the effect of breed improvement through breeding bucks facilitated through BAP.

57. What levels of **production increase** of cashmere can be expected? First of all, some fluctuation between years of volumes combed must be taken into account: the amount purchased in 2016 of 1375 kg was only 86% of the purchase a year earlier. Late combing (and a rainy spring) is said to be the main reason for the decrease, but the amount of fibre combed per goat diminished as well (from 170 to 150 g) and perhaps competition with other buyers has played a role⁴⁸. MSDSP estimates that presently 23% of the goat population is being combed (9000 goats out of a population of 40,000). Assuming an increase of the goat population by 3% annually, and an increase of the percentage of goats combed of 3% annually, and an increase of fibre combed per goat of 5%, the total amount of cashmere combed and sold would increase by amount 20% annually to appr. 3400 kg in 2022.

Poultry

58. The effect of supporting egg production has most probably reached a ceiling of about 15-20,000 USD, and has created 10-18 FTEs. As discussed, no expansion is expected because the market for local eggs is believed to be limited.

Table 3. Component 1: measurable, direct effects versus targets

Objective	Indicator	Enterprise	Baseline	Result 2016*	Target 2016**	Target 2018***	Remarks for targets 2018
Outcome 1: Increased entrepreneurship of selected livestock farming generates additional employment and income	Added gross income due to project	Poultry eggs	near zero	\$ 20,000	\$ 26,000	\$ 40,000	Support to phase out
		Cashmere	no fibers	\$ 30,000	\$ 26,000	\$ 50,000	Suggested 65,000 in 2022
		Cattle		\$ 140,200	\$ 300,000	\$ 1,330,000	Suggested 350,000 in 2022
		(total)		\$ 190,200	\$ 352,000	\$ 1,420,000	Suggested 415,000 in 2022
	Added employment	Poultry eggs		6 FTE			
		Cashmere	1.38 FTE/HH	272 FTE		420 FTE	
		Cattle					
			11.1% unemployment				
	Households benefitted (% women)	Poultry eggs		18 HH (70% w)			
		Cashmere		2630 HH (50%)		7,400 HHs	

* In the case of income from cattle: not including weight gain. In the case of employment: data copied from the Mid-Term Review report.

** Targets 2016 for cashmere and cattle have been assumed by the ET, by interpolating between 2015 and 2018

*** Targets for 2018: numbers from the Mid Term Review team's recommendations.

⁴⁵ See: 17may19 Version 2 - First Draft Report Bai Alai Midline Survey - Livestock Section.doc , page 60

⁴⁶ See 2016 Annual Report.

⁴⁷ OBDC pays KGS 1800, 1200 and 900 respectively for 1st, 2nd and 3rd-grade cashmere. Traders selling to China are said to pay KGS 900-1000 per kg. We simplify this as KGS 1200/kg by OBDC and KGS 1000/kg by others.

⁴⁸ Unfortunately, the ET did not dig deeper into estimating the volume purchased by buyers other than OBTC. In the following calculation, their influence is not taken into account. However, the effect of BAPs effort to increase cashmere production may thus have an additional effect that is not measured.

Other forms of local economic development

59. The ET found that the promotion of **vegetable production** is clearly successful. This success is due not only because of effective training, but also because most produce can still be sold on local markets. The strong seasonality of the more perishable vegetables provides an opportunity to sell more vegetable in the city of Osh. The vegetable growers visited impressed the ET of keeping good records of costs and benefits. The ET has not recalculated the estimate of gross revenues reportedly generated by selling vegetables, which is high (USD 102,000 by 129 growers in 2016) but has confidence that this is a realistic number.

60. Strategic support to **mechanization** has been targeted in response to a perceived need for farmers to have access to machine services for, especially, winter feed preparation (mowing, raking, baling) and in Chon-Alai also for potato cultivation. However, an inventory in 2016 has revealed⁴⁹ that, certainly in Alai, only the smaller, two-wheel (Chinese) tractors may be affordable to buy and operate (with a pay-back period of three years). There is some opportunity in repair services for the predominantly old tractors (but the economics of such a business has not been studied). BAP has organized an exposition of machinery (including of smaller equipment) but no purchases have been recorded as a result. In parallel to field mechanization, the programme promoted the use of feed choppers to reduce losses of hay fed in winter. This promotion was moderately successful (four choppers bought that BAP knows of) and will receive more attention. In conclusion, the effect of efforts in promoting a more robust level of mechanization in the BAP area is much lower than expectations.

61. The programme's support to **tourism and hospitality services** has impressed the ET as being professional and effective; an increasing number of visiting tourists seem to confirm this (16% more in 2016 compared to the previous year, now totalling nearly 4000 through the "Visit Alai" operator). As remarked earlier, there is empirical evidence that because of the increase of community-based tourism, tourist-workers are less likely to migrate out of the area⁵⁰. The certification of guesthouses is an important tool to set standards for serving provision⁵¹. A serious effort is made to receive feedback from tourists and analyse such feedback to improve services and service providers. New tours are being developed. Networks with other tour operators are obviously working well and an obviously well-functioning system of commissions⁵² is being maintained. The total earnings to the organization (thus not counting commissions only) is USD 51,000 in 2016, or 12.5 USD per tourist.

62. The support to **women-operated businesses** appears to be effective in providing access to business knowledge and networks. The intervention is targeting both individual female entrepreneurs (through training, coaching) as well as an organization of business women. The Business Women of Alai organization has

⁴⁹ See 170421_Eng_Research report_ag machineries efficiency assessment.docx

⁵⁰ See 2015: *Community Based Tourism in Arslanbob and Sary-Moghul, Kyrgyzstan: An Alternative to Labour-Migration?*

⁵¹ Some of the guesthouses receiving an increasing percentage of guests from Kyrgyzstan as well, and now expanding into a full-fledged guesthouse, rather than a home with accommodation for guests.

⁵² Each sub-provider (drivers, guides, guesthouses) pays a fixed fee of 10% of gross revenues earned.

established a small office-centre with examples of handicraft products, providing an environment for formal and informal training, networking, common sales and coaching. The organization is presenting itself at various local and district events. Typically, between 15 and 50 women participate at these events. Training includes not only business-related finance and administration, but also technical skills in for instance, catering and traditional wool processing. The turn-over of various small businesses supported through these activities⁵³ is modest (USD 8,000 in 2016) but the establishment of the structure is more important. At the heart of the organization are mentors/coaches: business-experienced women willing to 'mentor' others setting up and initially running their own business. Of these the ET met with three, each coaching several start-ups enthusiastically.

63. The programme's support to create lasting **employment for youth** has had positive effects for at least 19 young entrepreneurs and an additional seven youngsters working for them. The approach, of organizing competitions for business ideas, and awarding winners by subsidizing investment (on cost sharing basis) and coaching the start-ups on marketing, business administration is evidently effective in drawing business ideas and has resulted in a larger than expected number of beneficiaries. Beneficiaries include a metal workshop (see text box), a carpentry workshop, car repair shops and sewing shops. The young business persons visited are from villages where a majority of

Observations on a young entrepreneur with Metal Workshop

Avazbek, 24 years old, participated in one of BAP's *Youth Business Competitions* in 2016 and won! He has a metal welding workshop which he established after returning from five years of working in Russia. There he learnt skills needed for welding, plumbing and house electricity installation. He had no previous training in these fields.

His prize consisted of welding equipment, an acetylene welding outfit and a lathe machine, with a total value of KGS 75,000. This allowed him to upgrade his welding and turning shop, and engage three young men (25-30 years old). The workshop produces frames, doors and all kind of metal parts on order. They also form a working team for internal construction of houses: water supply, electricity and sanitation.

Avazbek found his assistants himself; they already had work experience. He says, that after one year of working under his leadership, they could set up their own business, although their main bottleneck would be to acquire the necessarily equipment.

He pays his workers KGS 20,000/m each, and after paying for inputs, taxes and rent, retains a net income of KGS 30,000. That is about 60-75% of what he earned in Russia.

He is confident of his professional and technical skills and expertise, gained through experience rather than formal vocational education. He is not afraid to start any new business, and dreams about moving to Bishkek, as the capital offers better opportunities for entrepreneurship. He would be interested too to start an internet café or a sewing shop.

'friends' (other youthful persons known to the beneficiary) had left to work in Russia, Kazakhstan or Bishkek. Each of these businesses generated a reasonable income and some of this was re-invested (in the business or in cattle). The ET observed at two meetings (Youth of Osh, Gulcha Youth Centre) that much support is needed at the rayon level to sensitize and mobilize youth there, and that the Youth of Osh organization is a valuable network for rural youth, reaching beyond the village and providing examples and thus perspectives for gainful employment.

64. The programme has started three recent support activities, the effect of which is too early to measure. The ET considers that these activities fit well in BAP's portfolio of (potential) business supported. All three carry a degree of risk that the 'market' (the number of entrepreneurs) will be below expectations.

⁵³ Examples of businesses of beneficiaries include: a beauty salon, a grocery shop, bakery shops, a sewing atelier and other home crafts, especially wool-based handicraft.

65. The first is support to *cross breeding of cattle*, by facilitating the purchase, and by paying for the transport costs to Osh, of Aberdeen Angus breeding bulls. This activity has been discussed earlier and is considered potentially very effective in achieving higher weight gains on pasture, better sales potential of beef animals and of selected offspring, and increased attention to controlled breeding practices at summer pastures. It is not yet clear if the project will, or will not, stimulate the formation of a local breeding organization with as aim to rotate bulls to avoid inbreeding, and to record offspring⁵⁴ to document these as cross-breds. The long-term effect of stringent breed recording, or even branding, could increase the value of cross-cattle sold from Alai/Chon Alai.

66. The second activity that has started only recently is for better *fruit production* through the support of ‘brigades’ of advisors at the ayil okmutu level, providing hands-on training. The interest of farmers to improve fruit quality appears to be large and the necessity appears to be high as well, based on the impression of many orchards presently being neglected. While better orchard practices may certainly have an effect on higher yields and better-quality fruit, the ET would like to encourage BAP to look downstream of the value chain too and study the potential effect on farmer-income earned of pooling fruit for grading and packing, possibly storing and common marketing.

67. The third activity that BAP only recently started is support through training of local craftsmen on how to improve *house insulation*. Training is now being provided by AVEP⁵⁵. This is a well-conceived and well-prepared activity with a high level of risk (that despite the usefulness of the innovation, house owners will not invest in it). For this reason, the ET considers contribution by BAP necessary and correct.

Table 4. Component 2: measurable, direct effects versus targets

Objective	Indicator	Baseline	Result 2016	Target 2018*	Remarks
Outcome 2 – Local small and medium enterprises generate increased employment and income in selected sectors	Added gross income due to project	Average 289,580 KGS/HH (= \$4,918)	\$ 190,000	\$ 137,000	Women Business development (capacity development, investment support)
	Added employment	Youth employment 1.2 FTE/HH	68 FTE	40 FTE	Youth-oriented business support (networking, investment support)
	Households benefitted (% women)	0	268 HH (80% women)	400 HH	Vegetable production, Hospitality business, Tourism, Joinery, Metal workshop, etc; Recent additions: bee keeping, orchard brigades, house insulation.

* Targets for 2018: numbers from the Mid Term Review team's recommendations.

⁵⁴ Recent ear-tagging and registration of cows provide a unique opportunity to ease setting up a simple herd book.

⁵⁵ Please refer to their “Green Skills Training in Rural Areas” project, <http://avep.info/index.php/en/our-projects>

Action research and communication

68. The project has certainly made an important contribution in (working towards) a resolution of a **long outstanding conflict of grazing rights** of pastures near Sary-Tash. It has done so by inviting key stakeholders of three municipalities and PUCs district officials and the association of Jayit Committees (and other stakeholders) at several round-table meetings. The conflict is complex, as it involves soviet-era grazing rights of Aravan rayon (outside the BAP area), contested mapping of borders, and, if agreement can be reached at all, remapping of borders by the relevant authority (Giprozem)⁵⁶.

69. The project has contributed significantly to **understanding of commercial activity** in Alai and Chon Alai, through its assessment studies on beef, milk and more recently honey (and other bee products), poultry eggs, roadside business, tourism, machinery services and more.

70. The ET did not find an additional systematic effort to map **conflicts** beyond the workshops done in 2014 on conflict management⁵⁷, but it found that BAP is practically targeting youth (who may be more sensitive to radicalisation), and addressing one of the potential conflicts of pasture use near Sary-Tash through positive action.

71. The **weighing trials** undertaken by MSDSP are valuable and have already tuned the estimates of cattle weights to realistic levels. The descriptive study on “Traditional Livestock Keeping in Chong Alai” have helped to point the MSDSP team to look into improvements of shed construction.

Conclusion

72. In conclusion, the direct effects of the programme on **additional, sellable product value** (‘income’) by the end of 2016, compared to interpolated indicator levels (Table 3 and Table 4) have been assessed as follows:

- For **cattle beef**, an achievement of approximately 50%, but this number is sensitive to assumptions made and does not take into account weight gain of cattle due to better pasture management (assuming such management improvement has occurred) or indirect benefits or multiplier effects⁵⁸. Therefore, this may be taken as a low estimate;
- For **poultry eggs**, taking into account that the Mid-term Review mission has provided a (sound) recommendation to freeze further support and reduce the 2018 expectations: 80% of the (interpolated) 2016 target has been achieved;
- For **cashmere**, the effect of interventions has exceeded expectations. The indicator is actual value sold, so indeed, income has increased.
- The 2016 amount of income earned in supported **local businesses**, \$190 thousand, is well above the target set by the Mid-term Review mission.

⁵⁶ The director of IFAD/WB livestock projects, Mairembek Tairov, points out that the conflict is well known at Central level and that temporary agreements have been made to settle the responsibilities of raising grazing fees and paying land tax.

⁵⁷ See 2014, the Project DOcument, *140210 Annex O - Strategy for Conflict-Sensitive Programme Management (CSPM).docx*

⁵⁸ The ET has compared its estimate for additional income generated with the numbers provided by the PFU in its draft annual report for 2016 and found a 9% difference in estimate, which it finds reasonable.

73. The ET considers BAP's effect on income generation strong where it concerns component two (local economic development) and weaker than expected where it concerns component one (livestock development). The ET **recommends** that the targeted amount of income generated under component 1, as specified in the Project Document for Phase 1, be reduced to the values recommended in Table 3. It also recommends that the effects in the case of pasture- and cattle production are predicted more systematically (see recommendation about "Cue Cards", in the next chapter). It further recommends that the targets for component 2 be increased beyond the recommendation by the Mid Term Review Team, as these targets seem to have been already achieved (Table 4). It finally recommends that the targets indicated above, for income generated, when they have been set while planning the next phase, are then formalised as part of the logical framework matrix.

Recommendation 1. The ET recommends to thus adjust the quantities of indicators for achievement of component one and two.

Efficiency

Management

74. The Programme is complex, in that it cooperates with many partners and implements a large number of activities. It needs and appears to receive from the contract partners, the **flexibility** to adjust its planning in response to insights gained. This is evidenced by BAP dropping support to poultry egg production, adopting the support to brigades to lift fruit production, starting the support of a bee products value chain) and training of youth on energy-saving measures in house construction, especially insulation⁵⁹.

75. Such flexibility requires **good communication about planning and progress reporting**. In the case of dropping the poultry egg production intervention and introducing orchard management, we have found such communication in the Mid-term review document, in progress reports and in familiarity of these activities with SDC in Bishkek, but not yet in the *Measurement Plans*, an important monitoring tool. In the case of bee keeping facilitation and cattle breeding support, such communication is lagging behind.

76. The quality of **progress reports** has improved over the years to the level that an effort is made to attempt to quantify, for each result chain, the effect of support in terms of the two main indicators: income and employment generated. While these may not be the only indicators, they should be monitored and this is now being done.

77. The PFU's **administrative efficiency** has not been assessed, but the ET has received swift responses to requests for information on budgets and expenditures by component. Glimpses from the filing system indicates that important documents are kept well.

⁵⁹ See project document 2017: *Assessment Report Energy savings training*. This title is freely translated. The report has been prepared by AVEP, which organization implements a project called *Green skills training in rural areas*.

78. The **PFU team** is strong, well organized and has a good reputation amongst project partners. It also interacts well with local governments; several local government officials met by the ET mentioned that they share responsibility for the results of the Programme, which indicates ownership and proper integration.

79. **Backstopping** from HSI to the project team can only be judged from backstopping documents, and these are of high communicative quality.

80. The MSDSP has done a good job **interacting** with ARIS and with the Association of PUCs so as to complement (rather than contradict or duplicate) training content and investments for Pasture Users Committees. It has adopted existing guidelines for pasture management rather than developing new ones. However, it has not followed the criteria used by ARIS⁶⁰ to assess performance of PUCs, with as result that BAP has supported committees which ARIS/IFAD has not. On this occasion, BAP has followed its own course.

81. More generally, the BAP has done a commendable job involving some of the donor organizations (FAO, WFP) in their **steering board**, thereby informing these donors of project activities and strategy. Nevertheless, there remain differences of approach⁶¹.

82. As BAP is composed of **several project partners**, the programme is fragmented. A challenge remains with the PFU to introduce with its partners a stronger sense of common focus, namely, market orientation and financial benefit of the enterprises supported (so that these contribute to income earned and eventually to employment). Examples of enterprises of which the horizon does not stretch beyond production include fruit production⁶², fodder production and investments towards improving grazing⁶³.

83. The project partners who best incorporate **market-orientation** into their development activities are:

- TES Centre (cost/benefit records in vegetable production and poultry egg production, business plans for breeding bulls but not much commercial orientation yet in orchard crops);
- OBTC - which is a market organisation and a good example of a provider of embedded services⁶⁴; and
- Visit Alai / KBCTA (strong in systematic analysis of the tourist feed-back and in networking with actors along the chain).

84. Activities that are least market-oriented at the moment are support to Pasture Committees⁶⁵ and private veterinary services.

⁶⁰ Implementing the IFAD-supported LMDP project. In a first assessment of this project, only 3 out of 17 PUCs were considered to perform well enough to qualify for support-investment.

⁶¹ An example is the free issue of fertilizer by another donor, which is in strong contrast with the BAP approach of cost participation of beneficiaries.

⁶² Work in orchards becomes especially meaningful once the fruit can be marketed well (leaving a higher margin with producers), which still is beyond the focus of the coaches, presently having their hands full on improving production practices.

⁶³ The ET did not see calculations on expected benefits of an investment and suggests these to be systematically done before and after commercial enterprises are being supported.

⁶⁴ Cashmere 'collectors' (who actually do not collect the product) provide information about combing, quality standards, price and logistics for the sale of cashmere and could play a larger role in breeding.

85. In two instances project partners need to **coordinate activities**: horticulture and beekeeping (because of pollination and spraying) as well as coaching Pasture Users Committees and cattle breeding (because of isolation of breeding herds and possibly to facilitate a breeding organization / herd book at the level of the PUC).

Is BAP's cost, compared to its achievement, reasonable?

86. Attributable additional income generated as reported in the previous chapter has been compared with direct expenditures, for the first two components. No effort has been made at this time to predict indirect costs, which may be substantial, but more complicated to calculate and attribute. Therefore, the reported figures on income generated should be considered as a minimum. Income generated in the livestock component is appr **58% of costs directly invested** in this component. In the case of local economic development this percentage is about the same (Table 5).

87. Although the direct costs, compared to resulting increased income, appear to be high, the ET expects the benefits in the case of **cattle production** to be higher than those reported here. It would therefore like to encourage BAP to improve its estimates on income generated from livestock activities (additional weight gained because of better pasture management, or of better veterinary care) as has been suggested in this report⁶⁶.

88. In the case of supporting **businesses of youth and women**, the ET's impression, based on anecdotal evidence of businesses visited, is that the proportion between BAP-supplied investment and income generated as a direct result of this investment is more than one⁶⁷, which the ET would consider efficient. If this observation is more than anecdotal, in other words, if BAP can confirm that the more-than-equal return on investment applies to supported businesses in general, then BAP is recommended to increase the share of BAP-supplied investment and extend its support to a larger number of beneficiaries. This conclusion, however, is based on arithmetic and therefore needs to be verified against the number of sound proposals received in support applications.

⁶⁵ This observation is based on information collected, which may be incomplete. We did not find much emphasis on cost-benefit calculations, for example, on the amount of grazing fees charged versus daily weight gain of livestock grazing on pastures managed. Similarly, calculations on cost-benefit of investments in pasture infrastructure (a bridge, a dip, road clearing equipment) has not been shown to the ET.

⁶⁶ See also Annex 6

⁶⁷ See for instance the example provided of the welding shop: an investment of KGS 75,000 has contributed to the employment of three additional persons, paid KGS 20,000 per month each.

Table 5. Project costs compared with attributed income generated with beneficiaries.

		actual 2014	actual 2015	actual 2016	(planned) 2017	Costs 2014-2016	Inc.Bnft. 2014-2016	Empl.Bnft.
1. Livestock		85,330	89,768	167,625	172,461	515,184	301,353	280 FTE
Cattle-1	MSDSP	47,165	64,500	125,258	106,883			
Cattle-2	TES	-	-	-	30,516			
Poultry	TES	27,857	23,288	10,761	2,549			
Cashmere	OBTC	10,308	1,980	31,606	32,513			
2. Local Econ.Dev.		40,578	125,940	183,512	197,690	547,720	309,951	28 FTE
Tourism	KCBTA	22,846	26,252	61,200	29,836			
Vegetable prod	TES	-	14,417	23,739	20,331			
Women businessess	WBA	2,591	30,270	15,190	23,360			
Youth	YoO	13,677	49,109	39,197	59,677			
Horticulture	TES	-	-	14,277	17,815			
Agromachinery	MSDSP	-	-	19,690	31,449			
Business training	BPN	1,464	5,892	10,219	7,863			
Energy efficiency	AVEP				7,359			
3. Action Research		4,050	3,027	28,840	86,358	122,275		
Total direct (activity related)		129,958	218,735	379,977	456,509	1,185,179		
Overheads*		401,092	650,361	542,812	539,934	2,134,199		
Total budget*		531,050	869,096	922,789	996,443	3,319,378		

* Small discrepancies may exist with project accounting tables. Please consider the above as estimates.

Impact

The programme's impact so far is not easily established. The ET has previewed early results of the Mid-line Survey, in which 228 households have been interviewed, allocated in two groups: those having been in contact with project activities and those not so. The survey then looked for significant differences between these groups. One of the differences is that respondents in contact with BAP have more land, owned or leased, than the control group. With this difference in mind, the ET has not been able to draw conclusions from the data glimpsed on income and employment.

Table 6. The programme's overall goal and project goal.

Hierarchy of objectives Strategy of Intervention	Key Indicators (linked to results chains)	Data Sources Means of Verification
Vision / Impact (Overall Goal / Social Level Change)	Impact Indicators	
Poverty in Alai and Chon Alai is reduced - in particular for women and youth	Change in % of population below the poverty line	District statistics + baseline survey
	Change in % of youth (disaggregated by gender, age and social criteria) who view themselves as productive members of their community	Baseline/endline surveys (individual questionnaires)
	Change in % of youth (disaggregated by gender, age and social criteria) who view themselves as productive members of the household	(% targets and timelines to be specified based on the baseline survey, in mid-2014)
Mission (Project Goal)		
To reduce poverty by reorientation of livestock farming towards farming entrepreneurship and by fostering local business initiatives.	% increase in average total household income in the Project area - Phase I – 40% - End of Project – 100%	Baseline + endline surveys

Sustainability

89. BAP's strategy (of connecting poor households to markets through facilitation rather than becoming an actor in the value chain) has clear benefits when it comes to minimizing the risk of households becoming dependent of the project. Benefitting households have to invest themselves and only receive support if they themselves take sufficient initiative or make substantial investment. The investments required of Pasture User Committees (supported also by a contribution of the municipality's budget) on pasture infrastructure is no exception.

90. PUCs have to generate sufficient revenues to be able to invest in pasture improvement in the future. MSDSP reports an increase of pasture fees collected (Table 7), of nearly 20% per year since 2014. Large differences in fees/ha and fees/user suggest scope for improvement which requires vision and management skills for committee members. A threat to sustainable improvements in this context is that there is a rather large turn-over of committee members.

Table 7. Details of grazing fees collected by Pasture Users Committees.

№	Jayit Committee	Fees collected			Increase (avg. /year)	b: Used area (ha)	c=a/b: fees/ha	p: # users	% of fees for infra	x: # LLU**	y=a/x Fees/LLU
		2014	2015	a: 2016							
1	Гулчо	241,200	258,500	265,000	5%	1,984	134	1,900	53%	10,027	26
2	Ленин	142,500	150,000	169,000	9%	2,969	57	1,741	50%	8,970	19
3	Бүлөлү	95,000	95,000	95,000	0%	1,039	91	481	41%	3,049	31
4	Жошолу*	170,000	253,800	300,000	46%	2,183	137	1,700	45%	8,858	34
5	Алай	175,000	186,900	170,000	-1%	2,145	79	2,123	41%	9,421	18
6	Уч-Добо*	160,000	180,000	188,900	10%	7,840	24	1,678	50%	7,161	26
7	Сары-Таш	110,000	112,500	115,900	3%	67,595	2	600	48%	5,403	21
8	Талды-Суу	178,200	181,000	187,300	3%	16,047	12	518	43%	4,720	40
9	Жаны-Алай	20,000	53,000	72,700	183%	619	117	50	43%	1,603	45
10	Кабылан-Кол	73,000	73,700	102,000	20%	1,114	92	726	39%	3,975	26
11	Сары-Могол	110,000	110,500	120,000	5%	22,707	5	1,123	43%	3,846	31
12	Корул	271,800	274,500	275,000	1%	2,437	113	1,755	52%	9,601	29
13	Конур-Добо	190,000	192,000	159,300	-8%	1,625	98	1,427	42%	5,218	31
14	Будалык	93,000	93,500	95,000	1%	2,070	46	879	43%	5,284	18
15	Чон-Алай*	394,000	405,000	531,200	17%	42,180	13	3,727	35%	16,010	33
16	Кашка-Суу	426,000	548,000	1,128,000	86%	84,753	13	1,812	37%	12,993	87
17	Жекенди	310,000	306,100	376,900	11%	44,714	8	877	27%	18,479	20
Average		185,865	204,353	255,953	19%	17,884	61	1,360	43%	7,919	32

91. BAP's approach seems to work well in the case of cashmere and honey, which are geared towards strengthening links between producers and markets.

Conclusion

92. For 18 groups of activities supported by the programme, the ET has predicted the likelihood that these will have a lasting effect, and whether this change will affect only a few or many. The judgements made are always in three gradations (high/medium/low) and are meant to be relative: to compare activities. Following

Table 8, activities with Jayit Committees (PUCs) aimed at pasture improvement are rated high, but slow in materializing. To make matters worse: increased yields or higher pasture quality will be more difficult to measure. But relevance is high and relatively many people will benefit. The ET has rated sustainability of mentorships in general as less than high, expressing some worry that it may be difficult for some of the groups to keep a sufficiently large pool of good mentors for start-ups.

Table 8. Assessment of relevance and potential of crowding-in factors.

		Relevance (addresses bottleneck/ opportunity)	Self-employment opportunities of actor	Scale (# beneficiaries potentially involved)	Adoption rate (time to achieve scale)	Producers influence Value Chain	Sustainability (donor-independent operation)
1. Livestock actors supported:							
1.1	JCs, to improve Pasture access	high	medium	many	slow	n.a.	medium
1.2	JCs, to improve Pasture quality	high	medium	many	slow	n.a.	high
1.3	JCs, PVs and associations, to improve Animal Health	high	low	many	medium	n.a.	high
1.4	Fodder seed suppliers	high	low	many	fast	insign.	high
1.5	Field mechanization SPs	high	low	medium	fast	insign.	medium
1.6	Demo-farmers, for better in-shed feed management	medium	low	medium	fast	insign.	low
1.7	Demo-farmers, for better housing	medium	low	medium	slow	insign.	low
1.8	Poultry - egg producers	medium	low	few	fast	low	high
1.9	Cashmere production and market links	high	low	many	fast	low	high
1.10	Bull keepers, to improve X-breeding	high	low	many	medium	high	high
2. Local Econ.Dev.							
2.1	Tourism SPs and Associations	high	medium	medium	medium	high	high
2.2	Vegetable producers	high	high	medium	fast	low	high
2.3	Women businessess and Mentors	high	high	medium	medium	n.a.	medium
2.4	Youth clubs and mentors	high	medium	low	medium	n.a.	medium
2.5	Horticulture and brigades	medium	low	high	medium	low	high
2.6	Beekeepers	high	medium	high	fast	high	high
2.7	Business training mentors	high	low	medium	medium	n.a.	medium
2.8	Energy efficiency businesses	medium	low	low	slow	n.a.	high

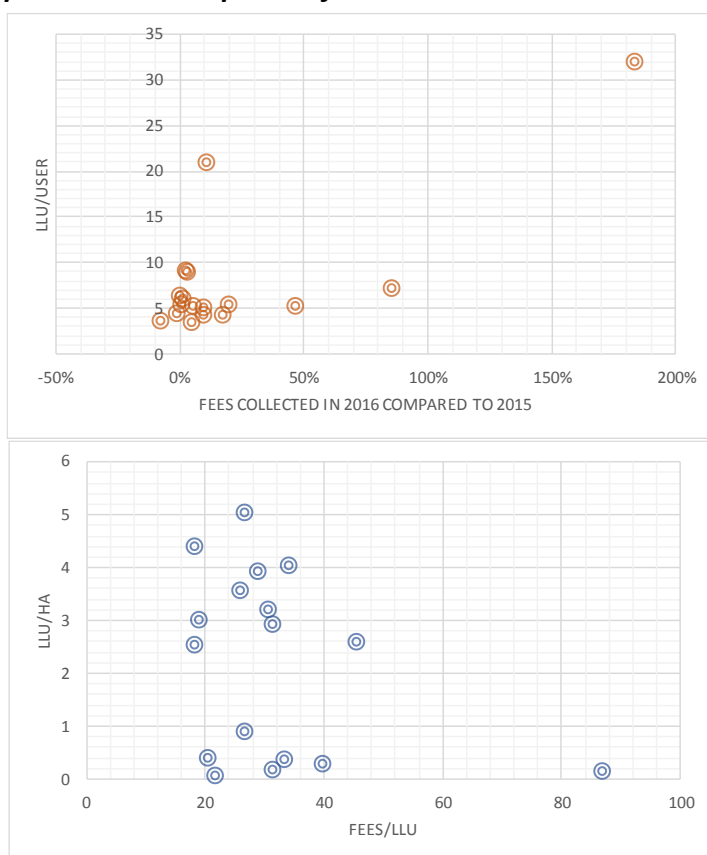
Lessons Learnt and Recommendations

On Pasture and Beef Production:

93. One of the observations made is that amount of net benefit that pasture users receive from grazing their animals on summer pastures⁶⁸ is about 10 times the price of a year-round grazing ticket. Pasture Users Committees (or their members) have in the past years increased the amount of pasture tickets collected by 20% on average (Table 7), but there is a wide variation between PUCs, ranging from -8% to +183%. BAP does not provide a discussion on which factors are at play here and the data reported do not provide much of a lead: Figure 7 gives a weak indication only, but certainly no prove of two factors, (a) that PUCs with larger owners have increased fees recently; and (b) PUCs with a lower grazing pressure charge a higher fee. Although this is a weak lead,

Recommendation 2. BAP is recommended to look at these and other factors that could possibly explain drivers of decision making of PUCs.

Figure 7. Some parametres compared of 17 PUCs in 2016. Source: Table 7



94. Do pasture users recognize the effect of better pasture management (e.g. where applicable, lower grazing pressures) on daily weight gain of their animals? There

⁶⁸ Assuming a 90-day grazing period on jailo, with a daily gain of 300 g/d @ KGS 150/kg, and assuming herding costs of KGS 350/LLU and additional costs of KGS 700/LLU, the net benefit is approximately KGS 3000 per head. These calculations, and more, are shown in Annex 6.

seems to be no clear picture of these benefits among stakeholders. If BAP agrees with this observation,

Recommendation 3. it is herewith recommended to focus more on revealing and proving an effect of better pasture use on weight gain of grazing livestock.

95. This can be done by expanding the present efforts of weighing selected cattle, to a routine of weighing selected livestock before and after the summer grazing period, or better, before and after grazing a specifically managed pasture plot.

Recommendation 4. The ET recommends that in general and particularly cattle-related activities are more **market-oriented**. This recommendation is specifically offered to MSDSP: to more aggressively involve in defining and showing where money can be made from cattle rearing.

96. Possible interventions in this context could include:

- To pick up an idea already expressed during its formulation, namely, to explore the demand for beef across the border with China. Entrepreneurs interested to sell live animals across the border could be taken along on a study tour to relevant near-by markets. Exporters could be supported with a cost-sharing arrangement for test-batches;
- Entrepreneurs willing to set up a slaughterhouse or meat processing unit under sound commercial plans and using own investment, should be subsidized by BAP⁶⁹. The main expectation for such a subsidy would be an increased volume of beef being acquired locally. Another expectation would be the introduction of a 'Alai-Beef' brand. One option would be the storage of beef procured in autumn to be sold a few months later, when meat prices increase. With these options in mind, the ET recommends that BAP, if and when the pre-condition of serious interest by the private sector is shown, supports such a private party in technical assistance where requested⁷⁰;
- An earlier study on beef fattening has not resulted BAP focusing on beef fattening. Since fattening (say for 100 days) depends on good quality concentrated feed (cotton seed cake to a limited extent) available in Vergana valley rather than the project area, this seems a right decision. However, the ET recommends that BAP continues to explore opportunities to link cattle farmers (in Alai and Chon Alai) with fatteners - in Vergana. Such links could be based on family ties and on contracts. The expectation here is that the margin that can be made on fattening is relatively large compared to the margin made on raising cattle up to that point.

97. The ET expects that the demand for cross-bred animals produced in Alai will be large, if a rigorous breeding and recording system can be maintained. This expectation builds partly on the reputation of Alai and Chon Alai as excellent grazing areas. It also builds on the higher expectation of beef quality of Aberdeen crosses, compared to the local breed (in combination with improved management).

⁶⁹ On similar terms of sharing investment costs as the Agro-Horizon project, now being closed, has applied.

⁷⁰ Such technical assistance could be in the form of a market assessment, feasibility and technicalities of cold storage.

Recommendation 5. Therefore, the ET recommends that BAP supports breeders to organize themselves and consolidate their individual breeding efforts in branding a “Alai Aberdeen” cross-bred animal for fattening and breeding.

98. The ET applauds attention given to the study of yaks in Upper Alai and Chon Alai. Given the small population of less than 2000 heads in total,

Recommendation 6. it is recommended to include in the study current breeding practices and the likelihood of inbreeding in small and scattered herds.

On Veterinary Services

99. The ET has noted that the interest of young persons in starting a practice as a private veterinarian (PV) in the area is low, and that the average age of PVs is more than 50 years old. Their absence of interest in the job, as has been explained, is the prospect of a low income and difficulties collecting fees. Farmers remain reluctant to pay for services; according to many because veterinary services are associated with the State and are therefore considered public⁷¹. Late payment of PVs is common too⁷². Thus, PVs have two main ‘clients’: the Rayon Inspectorate (for vaccination services as discussed) and individual private livestock owners.

Recommendation 7. The ET recommends that BAP explores the potential of a third type of client: PUCs.

This exploration may focus on interests (with PVs and PUCs) and on contract scenarios between these two, for services provided by PVs to PUCs on behalf of members of the pasture users associations. An example is the parasite treatment (and shearing) activity at Bulolu village, where users pay a flat rate of KGS 50 for dipping and shearing one sheep.

On local economic development support

Recommendation 8. The ET recommends that BAP extends the scope of ‘Orchard Brigades’ to not only include orchard management, but also post-harvest management, including sorting and packing according to market demands.

100. In addition, the marketing chain of apples may be studied to determine the improvement of margin that can be achieved by producers, if fruit were not sold on-farm but closer to consumers.

Recommendation 9. The ET recommends that BAP studies the effect of breeding bucks on cashmere quality and yield, in villages where these bucks have been placed.

101. The expectation of such a study is a clear idea of the practical and theoretical benefits of investing in additional bucks.

⁷¹ Indeed, many of the PVs perform public services (vaccination), and these are not paid by the Inspectorate. Instead, PVs performing “contracted” public services are allowed to issue movement permits to traders and livestock owners, for which they may charge a fixed amount.

⁷² The same late payment is common in the case of buying pasture tickets.

102. The ET has no direct advice on the implementation of activities targeted at women and at youth, as these appear to be effective. As has been argued earlier (see the chapter on Efficiency),

Recommendation 10. BAP may consider to extend support to a larger group of businesses, if it agrees with the observations of the ET that the investment made in such businesses result in an increase in income that is higher than the investment itself.

103. Beekeeping in Alai and Chong-Alai can evidently contribute to income generation. The ET was impressed with the professionalism at which this activity is implemented and recommends that BAP will continue its support to this activity.

On Tourism

104. The ET considers the efforts supporting local organizations stimulating tourism appropriate and effective. A significant development of tourism in the remote locations of Alai and Chon Alai would not be possible without the network of operators that draws in the tourists and connects these to the providers of hospitality services. This network, certainly in the remotest villages, is still in development, and standards of services need to continue to be disseminated.

Recommendation 11. The ET therefore recommends that BAP continues its support to the tourism sector in the next phase.

On action research

105. In this report the ET has mentioned several questions of which the answers largely depend on investigation at the level of beneficiaries: on the effect of issued breeding bucks on cashmere quantity and quality, on the effect of grazing control on weight gains, on the potential of linking fatteners in Vergana with cattle producers in Alai and Chon-Alai, on the margins that can be made if fruits were sold near to consumers rather than on-farm, and more.

Recommendation 12. The ET recommends that these questions are sought to be answered, either through action research or through systematic data collection over a longer period.

On effect prediction and monitoring indicators

106. The ET recommends that the expectations of the effect of BAP involvement in field mechanization be drastically reduced.

Recommendation 13. However, the demonstration of tractor-drawn implements (small baler, mower, rake, potato ridger) and of two-wheel mini-tractors as well as feed choppers, is recommended to continue where farmers are unfamiliar with such equipment or their suppliers.

Recommendation 14. The ET recommends that the expectation of the collection of cashmere is tuned to a level of 20% increase per year,

107. from 1400 kg at present to around 3500 kg in 2022. However, this rate may be re-established after two more seasons of experience is gained.

Recommendation 15. To predict the effect of veterinary services, BAP may consider as indicator a reduction in lamb mortality (or calf mortality) instead of increase of live weight gain.

108. This recommendation assumes that the present levels of lamb- (or calf-) mortality are more than 12% and can be brought down to 10%.

Recommendation 16. The ET recommends that the present, important, study on weights of cattle be expanded as a tool to assess the effect of better grazing management on live weight gain, in summer.

109. To this end, “better grazing management” practices need to be defined and a sample of animals exposed to this practice be compared with similar animals not exposed to this practice⁷³. The newly formed herds of cows grazing with a Aberdeen Angus breeding bull would be a good example of animals exposed to better management.

Recommendation 17. The ET recommends that the PFU team is strengthened by a person

110. whose work will focus on (further) streamlining data and information from project partners (so as to facilitate monitoring) and to facilitate the issue of communication material to project partners and other stakeholders.

On records and administration

Recommendation 18. The ET recommends that all project partners involved in supporting a commercial enterprise (any enterprise incurring cost and earning revenues) be described in a common format (which the ET here calls a “Cue Card” as a working title).

111. The cue card is a one-page description of the enterprise and a calculation of ins and outs and how these are accounted. This should be done on a spreadsheet, so that calculations and assumptions are clear to third parties re-calculating or auditing the assumed results. Purpose is to make more transparent and more understandable to third parties, the expectations at the basis of an enterprise. To illustrate what the ET means, it has prepared two examples (on investing in pasture access, and on investing in breeding bulls), which are attached as Annex 6 and as a spreadsheet.

112. Given the importance of weighing cattle (as stated earlier), and given the obvious good contact that BAP has with persons making apps,

Recommendation 19. the ET recommends that BAP or MSDSP considers making a simple app for recording cattle weights (date, eartag, location, person weighing). Purpose is to minimize the chance of errors in weighing data (duplicate ear tags).

⁷³ We suggest that that each PUC is asked to define which of their grazing plots can be considered as well-managed, and which particularly poorly managed. Then one plot of each is selected, their management practice described and rated, and a sample of animals weighed to see the effect on their daily gain. Finally, questions can then be asked such as: has the better management practice led to a weight benefit? How large is the difference in weight gain? What elements of management practice were different?

113. Output of these observations is to be on a spreadsheet that can then be used for analysis without further data handling.

On sharing information

114. The Assessment and Study reports prepared by BAP are of high value for anyone considering investment in, or support to, the enterprises or sector studied. They deserve wider circulation.

Recommendation 20. Authors may be asked to prepare a slide show summary of each, making these available on a Kyrgyzstan-associated website specifically aimed at encouraging students and researchers to share such valuable studies⁷⁴.

⁷⁴ Example 1 on Mutton: https://www.slideshare.net/ExternalEvents/tilekeyev-study-of-sheep-meat-production-value-chains-in-the-kyrgyz-republic-en?qid=6807e072-afd7-4cd8-aa4e-05c37f1f8609&v=&b=&from_search=12 ;
Example 2 on milk: https://www.slideshare.net/ExternalEvents/punda-raise-of-food-standards-new-challenges-for-the-kyrgyz-dairy-industry-en?qid=6807e072-afd7-4cd8-aa4e-05c37f1f8609&v=&b=&from_search=20

The readable form of this 6-page document is provided in a separate file.



Annex 2. Documents consulted

Annex 2: Documents consulted

Bai Alai Phase-1 Evaluation Report

Assessment Reports

Assessment report Agricultural Machinery

2016 - 170421_Eng_Research report_ag machineries efficiency assessment.docx

Assessment Report Energy savings training

2017 - 170420 energy.docx

Cashmere sub-project - Draft final report

2014 - 1412 xx Kerven report Helvetas Dec 2014.docx

Cashmere sub-project - Interim report

2014 - 140428 Mission Report Carol Kerven.pdf

Gender (and Social) Equity Strategy in Bai Alai

2016 - 160125_Gender Strategy in Bai Alai_FINAL.pdf

Rapid Market Appraisal Apiculture

2017 - 170118_ENG_RMA_apiculture.pdf

Rapid Market Assessment for the Live Animals subsector and Sausage Production

2013 - 131206 RMA Report Live Animals En for HSI-rev1A.doc

Backstopping Reports

Back to the office report (after backstopping mission HSI)

2016 - 160501 Mission Report GFE_May 2016.pdf

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2016 - 160501 Mission Report_MRU_May 2016.pdf

Communications and Knowledge Management Strategy [for Bai Alai (SB&I CP in A&CA)]

2014 - 140808 Bai Alai_Communication Strategy_rev2.2 FINAL.pdf

Eight Measurement Plans (spelled-out Output and Outcome indicators)

2015 - 151224_Measurement_plans_updated_all.xlsx

Eight Result chain diagrams (Cause-effect relationships of interventions in these chains)

2015 - 151204_ENG_All_Updated_Result_Chains.ppt

Monitoring and Evaluation Guide

2014 - 141223 Monitoring and Evaluation Guide fd.pdf

Presentations

Presentation CBT Sary - Mogol

2017 - CBT_Sary Mogol_2016.pptx

Presentation MSDSP

2017 - Revised MSDSP KG presentation for Bai Alai May 11, 2017.pptx

Presentation TES in Bai-Alai Program

2017 - Presentation for mid term review team_11.05.2017.ppt

Presentation Visit Alai

2016 - Report in English Visit Alai.pptx

Presentation WBA "АЛАЙ ИШКЕР АЙЫМДАРЫ" КООМДУК БИРИКМЕСИ

2017 - 170511_KYR_Презентация ДЖА_2017 (Аипери) — копия.pptx

Progress Reports

Project website: <http://baialai.kg/index.php/en/>

#Error

Report 2014 (year 1)

#Error

Report 2015 (year 2)

2016 - 160624_BAI ALAI Year Report 2015_V4.pdf

Report 2015 half-yearly

2015 - 151028_BAI ALAI Half Year Report 2015_V8 Sent to SDC(1).pdf

Report 2016 (year 3) INFORMAL COPY

2017 - 170428_BAI ALAI Yearly Report 2016 - V.3.docx

Report 2016 half-yearly

2016 - 160830_BAI ALAI Half Yearly Report 2016.pdf

Project Definition Reports

Inception Phase Report, August 2013 – April 2014 (with Annex)

2014 - 140513 HELVETAS and AKF - SME Alai - Inception Phase Report - Final.pdf

Mid-term Review

2016 - 160901 Bai Alai Mid Term 2016 final.pdf

Mid-term Review, PP presentation

2016 - 160907 MTR presentation.pptx

Plan of Operation (YPO) for 2016

2016 - 160126 YPO BAI ALAI 2016 fv_additions.pdf

Plan of Operations 2016

2016 - 160125_YPO_Consolidated (draft)_JG.xlsx

Project Document for Phase I, 2014 – 2018

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Traditional animal husbandry in Alai and Chon-Alai
2015 - 160114_ENG_Final_trad_anim_husb_research_report.pdf

Survey Reports

Baseline Survey of Alai and Chon-Alai Region, 2014
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Midline Survey Report, 2nd Version
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Technical background

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2017 - 2017 Cold stress in cows.pdf
<http://www.omafrs.gov.on.ca/english/livestock/beef/facts/07-001.htm>

Market systems approaches
2014 - 2014 Market System Approaches.pdf
<https://beamexchange.org/ uploads/ files/ public/ 2/3/ a/ b23e3505-e3f1-4453-8e0e-aeb35e763f91/ beam/ literature/ review. pdf>

Market Systems Development (M4P) – A Conceptual Outline
2013 - 2013 M4P.pdf
https://assets.helvetas.org/downloads/m4p_presentation_mdi_vietnam_ws.pdf

The outcomes of 25 years of agricultural reforms in Kyrgyzstan
2017 - UCA publication on agricultural reforms in KR over 25 years.pdf

Winter Livestock Management
2008 - 2008 Winter Livestock Management.docx
<http://s.mall.farms.oregonstate.edu/sin/w08livestock>

Annex 3. Itinerary of the Evaluation Team

Wednesday 10 May

8:00 **Travel Bishkek-Osh ZM193**

Loc/Agency Manas
Contact TEZ 202

20:00 **Briefing SDC**

Loc/Agency Osh, Classic Hotel
Contact Aegerter, Lucien; Programme Manager – DevCoop
Ischer; Markus; Program Director Helvetas Swiss Intercooperation Bishkek;
Adishov, Kambarbek; Program Manager BA;
Aldashov, Talant; ;
Dosov, Botir; Coordinator, CACAARI; +998 98 128 63 22
Raeva, Damira; REC Advisor;

Thursday 11 May

9:10 **Briefing at PFU**

Loc/Agency Osh, PFU @ HSI N40°30'49.26" E72°48'48.39"
Contact Adishov, Kambarbek; BA PM. Raeva, Damira; REC Advisor.

10:35 **MSDSP KG**

Loc/Agency Osh, MSDSP Office N40°31'22.93" E72°47'42.51"
Contact Berdibekov, Melis; Director of MSDSP KG Osh
Uddin, Jamil; Director of Programmes;
Aldashov, Talant; ;
Elkeeva, Aida; PUC and WUA coordinator; 0772 606 519
Kadyrkulov, Sovetbek; Kashmir production specialist; 0779 508 560
Jolborsov, Ulukbek; MSDSP AG. Machinery Specialist;
Berdibekov, Melis; Director of MSDSP KG Osh; 0777 171788 (336 890)
Dadybaev, Joldoshbek; **Director of the Kyrgyz Veterinary Chamber**; 0772 520 561

13:15 **Youth of Osh**

Loc/Agency Osh, Youth of Osh Office N40°30'51.41" E72°48'07.44"
Contact Salimov, Saival; Project Manager, Youth of Osh NGO; 0550 500 599
Akylbek Kyzy, Nazgul; Dpty Executive, Youth of Osh NGO; 0779 622 922

14:20 **TES center**

Loc/Agency Osh, TES office N40°30'08.02" E72°49'26.66"
Contact Satykulova, Baktygul; TES Centre Specialist, 0777 505 253
Komolov, Rasul; Coordinates Cattle Breeding Activities; 0770 424 751

16:30 **Visit Alai**

Loc/Agency Osh, Office of Visit Alai N40°32'07.93" E72°47'35.77"
Contact Toksonbaev, Talant; Coordinator, Visit Alai; 0555 077 621

Friday 12 May

10:10 **Livestock Market Gulja**

Loc/Agency Gulcha N40°18'26.44" E73°27'06.37"
Contact Veterinarian, traders

11:10 BAP team

Loc/Agency Gulcha Office N40°18'39.36" E73°26'50.96"
 Contact Kozhalieva, Aidai; LED Facilitator; 0772 50 2002
 Koichumanov, Maksat; Livestock Facilitator; 0555 586 722
 Furer, Jael; Intern, BAP, Gulja;

13:15 BWA

Loc/Agency Gulcha N40°18'49.08" E73°25'50.83"
 Contact Nargiza Abdurasulova, Owner bakery shop, 0771 81 50 80; Alfia Zaripova, Owner grocery
 shop, 0770 499 830; Dinra Kasieva, Owner bakery shop, 0552 745 775; Aiperi Sagynbaeva, Director
 BWA, owner beauty salon, 0777 004 878+ 3 members

14:20 Alai Rayon Administrator

Loc/Agency Gulcha, Alai District Admin Office N40°18'42.95" E73°26'36.84"
 Contact Ilas Akjikitovich Tashkulov

14:40 Meet Head of Rayon Agriculture Dpt.

Loc/Agency Gulcha, Alai District Admin Office N40°18'42.85" E73°26'36.87"
 Contact Mr. Kochkon

15:05 ARIS facilitators

Loc/Agency Gulcha, Alai District Admin Office N40°18'42.95" E73°26'36.84"
 Contact Three Alai staff of ARIS; plus newly elected Chairman of Sary Tash PUC

15:35 Poultry farmer

Loc/Agency Gulcha BWA Office N40°18'49.28" E73°25'50.66"
 Contact Gulzhan Bazarbaeva, owner, 0553 156 785; Maksat Sulaimankulov (son, speaks EN) 0779 843
 466; Osmon Sulaimankulov (husband); Alaibek Alymkulov

16:15 Youth Center

Loc/Agency Gulcha Youth Centre N40°18'52.58" E73°26'08.89"
 Contact Damirbek Bakaibaev (coordinator) 0777 777 058; Guldar Omorbekova and Drozgul Bazarbay,
 both students

Saturday 13 May**9:30 Winner of Youth business comp**

Loc/Agency Yosholu village N40°20'14.26" E73°40'11.01"
 Contact Mr. Musa ulu Ulukman (0551 858455), Mrs. Zulum kyzy Kanykey

10:30 BWA member, exports Handycraft

Loc/Agency N40°19'13.97" E73°37'18.53"
 Contact Gulbarchin (0554 0219200), Halchaim, Begaimay (her co-worker)

11:15 Private Veterinarian; Rayon Vet Union

Loc/Agency BAP Office N40°18'39.46" E73°26'50.95"
 Contact Mr. Yakob Bakytrov, Chair, Alai Vet Union, 0559 250 375

14:30 Horticulture Brigade

Loc/Agency N40°09'30.90" E73°27'43.96"
 Contact Saktanov Nazbek, Br.Leader, 0557 770 752; Ermekbaev Isak, mmmbr 0559 700 930; Parmanov
 Omurbek, mmmbr 0557 150 366

16:10 Visit joiner's shop, owner

Loc/Agency Gulcha N40°18'59.97" E73°26'35.02"
 Contact Anarbek Kalmatov, 0777 524 994; Atabaev Farhadjan (chairman coop), 0555 467 055; Kubat

Sunday 14 May

9:15	Vegetable farmer	
Loc/Agency	Korul village	N40°23'31.51" E73°29'00.90"
Contact	Apiza Arzykulova 0554 341 300	
10:50	Beekeepers training, in bufferzone	
Loc/Agency	Up from Korul village	N40°24'42.31" E73°22'24.98"
Contact	Beekeepers; Ulukman Kubanych Duishenaliev, Jakshylyk; Entomologist with AgroLead Public Associ.; 0772 804 684	
14:30	Welding shop (winner competition)	
Loc/Agency		N40°18'30.97" E73°27'00.61"
Contact	Mr. Amalbek ulu Avazbek	
15:30	Veterinary situation	
Loc/Agency	Gulcha town	N40°19'12.80" E73°25'40.96"
Contact	Mr. Talaibek Jurbotoev, Rayon Vet Inspector,	

Monday 15 May

8:45	Fattener, Cattle breeder	
Loc/Agency		N40°18'16.75" E73°27'33.72"
Contact	Pamir Murzakalov, 0552 914 691	
9:45	BWA, local business mentor	
Loc/Agency	Gulcha	N40°17'27.78" E73°28'33.51"
Contact	Ainura Saparbaeva, guide, interpreter, mentor, 0777 019 724, 0559 280 582	
11:40	JC micro-project (Dip)	
Loc/Agency	Bulolu village	N40°10'08.82" E73°37'41.99"
Contact	Bakyt Artykov, Chair, JC, 0556 365 545;	
13:00	AH activities MSDSP with Jayit Committees	
Loc/Agency	On the way from Bulolu village	N40°10'05.13" E73°36'44.30"
Contact	Elkeeva, Aida; PUC and WUA coordinator; 0772 606 519	
16:10	Seed retailer	
Loc/Agency	Sary Mogul	N39°40'24.94" E72°52'56.60"
Contact	Topchubai Zhakalov, 0777 539 474	
16:30	Meeting with CBT	
Loc/Agency	Sary-Mogol	N39°40'48.20" E72°53'22.66"
Contact		

Tuesday 16 May

9:00	Cashmere, OBTC, farmers	
Loc/Agency	Central market Daroot Korgon	N39°33'06.13" E72°11'36.18"
Contact	Manat Anarbov, OBTC	
9:30	Rayon Administrator	
Loc/Agency	Daroot Korgon, Rayon Admin Office	N39°33'08.93" E72°12'32.38"
Contact	Mr. Zhaparov Zhumadylla	
11:20	AA bull keeper	
Loc/Agency	Jarbashi Village	N39°30'53.04" E72°06'54.27"
Contact	Mamasadyk Murzabaev, bizman, 0773 686 871, 0554 00 44 71	

12:10	Demo cattle shed	
Loc/Agency	Jarbashy village	N39°31'07.82" E72°07'19.84"
Contact	Jamila Kasymanova, Farmer, 0779 128 706	
13:10	AH activities with indiv. Farmers - MSDSP	
Loc/Agency	Central market Daroot Korgon	N39°33'06.13" E72°11'36.18"
Contact	Kambaralay Umatov, Livestock Spec. MSDSP, 0551 031 550, 0778 490 974	
15:15	Travel Daroot Korgon to Osh, 4 hrs	
Loc/Agency	Daroot Korgon	N39°33'09.82" E72°12'32.03"
Contact		

Wednesday 17 May

9:30	Head of JC and of JA Chong Alai	
Loc/Agency	Osh, Helvetas Office	
Contact	Cholponbai Taabaldyuulu, JC Chong-Alay, 0778 597 778; Paizylida Moatkarimov, JC Association	
	Chong Alai, 0779 364 651	

Thursday 18 May

8:55	Business Planning	
Loc/Agency	Osh, helvetas Office	
Contact	Artykbaev, Almaz; BPN Director; 0707 678 449	
10:00	Govt. Perspective on local economic development	
Loc/Agency	Osh, Office of Southern Reg. Rep. Min.Economy	N40°31'23.07" E72°47'55.41"
Contact	Mr. Iskanderbek Mamatov	

Friday 19 May

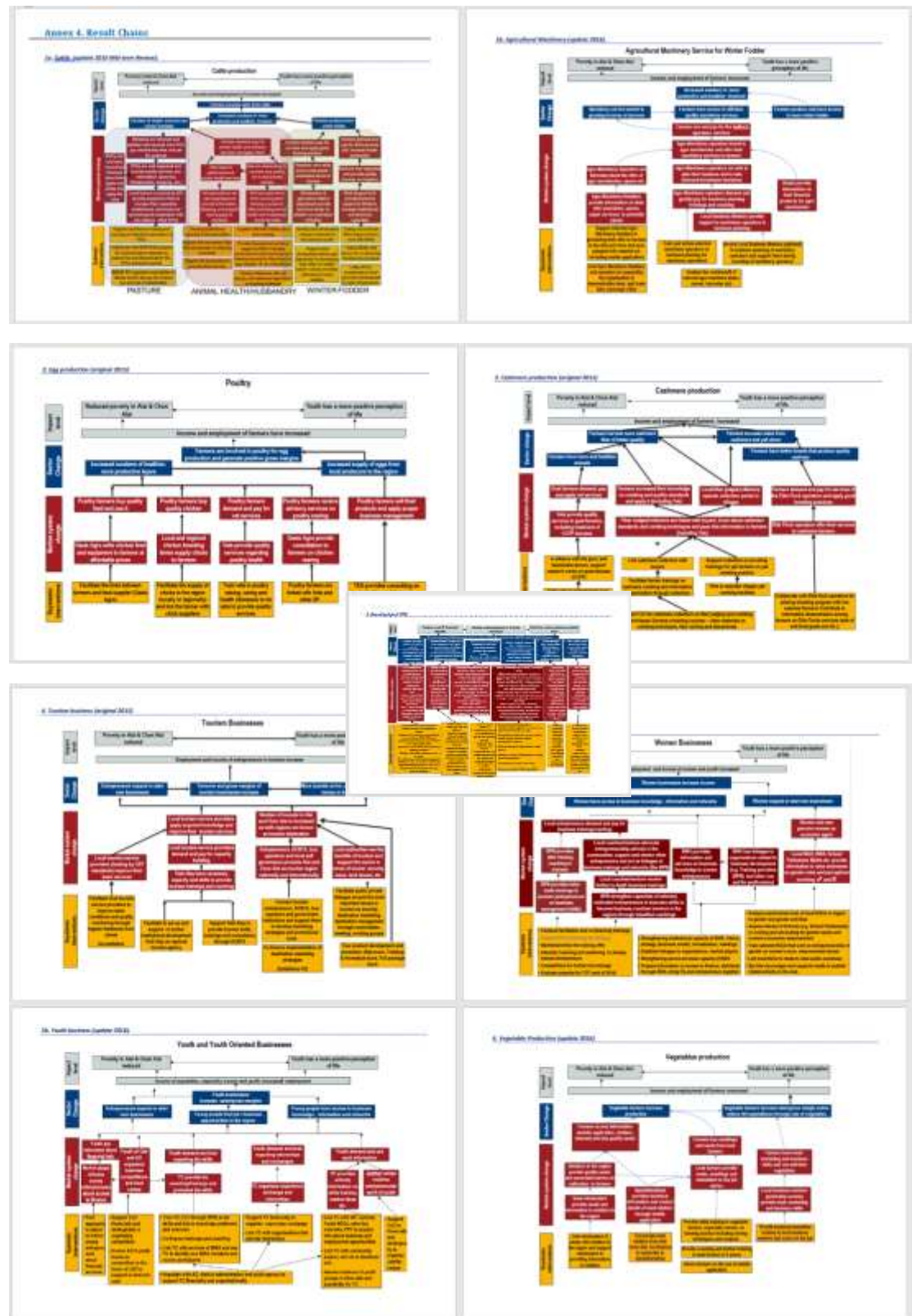
8:55	Insolation and Cookers	
Loc/Agency	Bishkek, AVEP Office	N42°51'24.80" E74°35'17.13"
Contact	Tokonov, Nurlan; Dir. Of AVEP (Public Fund); 0772 656 378	
10:40	Apiculture	
Loc/Agency	Bishkek, AgroLead Office	N42°52'41.50" E74°37'44.15"
Contact	Kazylaeva, Kaiyrkul; Manager Consllting Dpt, AgroLead; 0551 01 77 99	
13:15	Interaction with AHOP	
Loc/Agency	Bishkek, Office of Agro-Horizon Project	N42°51'03.35" E74°35'59.05"
Contact	Luz, Agnes; CoP, Agro Horizon Project USAID; 0770 44 1012	
14:40	Interaction with IFAD projects	
Loc/Agency	Bishkek, MoA	N42°52'26.37" E74°36'14.43"
Contact	Tairov, Mairambek; Director; 0772 274 478	

Monday 22 May

15:15	Debriefing SDC	
Loc/Agency	Bishkek, Swiss Embassy	
Contact	Dr. Danielle Meuwly Monteleone, Dpty Head of Mission Aegerter, Lucien; Programme Manager – Development Cooperation; Ischer; Markus; Program Director Helvetas Swiss Intercooperation Bishkek; Raeva, Damira; REC Advisor; Adishov, Kambarbek; Program Manager BA;	

Annex 4. Result Chains

The readable form of this 9-page document is provided in a separate file.



Annex 5. Livestock and Pasture Statistics

These tables are also provided as a separate XLS file, called *Annex 5 Stats.xlsm*

Livestock statistics per 1-1-2017. Source: Rayon Agricultural Department

	Large Ruminants				Small Ruminants						Equines and Camels				
	Cattle	cows (cattle)	Yaks	cows (yak)	Shoats	Ewes +Does	Sheep	Ewes	Goats	Does	Horses	Mares	Donkeys	Camels	Fem. camels
Alai Rayon															
1 Alai	3400	1965	830	543	20300	16198	17907	14107	2393	2091	1131	599	247		
2 Budalyk	1590	949	-	-	11870	8750	11417	8516	453	234	1320	535	265		
3 Bulolu	1009	562	136	79	7048	3730	6023	3330	1025	400	494	190	113		
4 Gulcha	5053	2575	77	72	16445	12264	13158	9651	3287	2613	1608	864	104		
5 Josholu	3532	1720	-	-	14600	8911	12338	7803	2262	1108	2406	1485	91		
6 Konur-Dobo	2335	1200	-	-	7570	4899	6861	4426	709	473	1369	775	120		
7 Kabyian-Kol	1330	650	-	-	8255	7150	7378	6487	877	663	994	580	132		
8 Korul	3968	1839	-	-	16825	10175	15275	9286	1550	889	2268	1392	152		
9 Lenin	3158	1596	354	240	19593	13227	17834	11753	1759	1474	1539	1110	171		
10 Taldy-Suu	1735	960	241	149	9680	6088	8266	5235	1414	853	808	397	136		
11 Sary-Mogol	1782	1001	422	299	7057	3397	4779	2599	2278	798	231	122	101		
12 Uch-Dobo	2980	1610	590	328	12450	7410	8355	5002	4095	2408	1101	481	214		
13 Jany-Alai	952	478	-	-	2854	1914	2737	1862	117	52	80	19	11		
14 Sary-Tash	1764	982	245	195	12712	8490	9717	6105	2995	2385	852	375	29		
Total Alai	34,588	18,087	2,895	1,905	167,259	112,603	142,045	96,162	25,214	16,441	16,201	8,924	1,886		
% incr. comp. 2016	1.6%	1.7%	-1.1%	2.5%	0.1%	1.7%	0.8%	1.5%	-3.8%	2.5%	2.4%	2.7%	-31.6%		

Chon-Alai Rayon															
1 Chon-Alai	6187	3233	320	162	40298	27539	32685	25249	7613	2293	1401	723	697	42	23
2 Kashka-Suu	4739	2616	572	408	29476	21491	26520	20388	2956	1103	1784	800	539	3	0
3 Jekendi	12468	2208	14	9	24812	17584	21021	15768	3791	1816	1027	465	183	8	3
Total Chon-Alai	23,394	8,057	906	579	94,586	66,614	80,226	61,405	14,360	5,212	4,212	1,988	1,419	53	26
% incr. comp. 2016	2.4%	0.9%	18.0%	14.4%	1.8%	0.9%	1.4%	1.8%	1.7%	1.0%	1.7%	2.8%	-24.2%		

Key data Pasture Users' Committees, 2016. Source: MSDSP and Rayon Agric. Depts.

№	Jayit Committee	Fees collected			Spent on impr.	Pasture area (ha)	b: Used area (ha)	c=a/b: fees/ha	p: # users	% of fees for infra	x: LLU**	y=a/x Fees/LLU	z=x/b LLU/ha
		2014	2015	a: 2016									
1	Гулчо	241,200	258,500	265,000	53%	9,918	1,984	134	1,900	53	10,027	26	5.1
2	Ленин	142,500	150,000	169,000	50%	32,501	2,969	57	1,741	50	8,970	19	3.0
3	Булолу	95,000	95,000	95,000	41%	11,262	1,039	91	481	41	3,049	31	2.9
4	Жошолу*	170,000	253,800	300,000	45%	16,513	2,183	137	1,700	45	8,858	34	4.1
5	Алай	175,000	186,900	170,000	41%	21,469	2,145	79	2,123	41	9,421	18	4.4
6	Уч-Добо*	160,000	180,000	188,900	50%	27,679	7,840	24	1,678	50	7,161	26	0.9
7	Сары-Таш	110,000	112,500	115,900	48%	96,923	67,595	2	600	48	5,403	21	0.1
8	Талды-Суу	178,200	181,000	187,300	43%	61,394	16,047	12	518	43	4,720	40	0.3
9	Жаны-Алай	20,000	53,000	72,700	43%	884	619	117	50	43	1,603	45	2.6
10	Кабылан-Кол	73,000	73,700	102,000	39%	4,298	1,114	92	726	39	3,975	26	3.6
11	Сары-Могол	110,000	110,500	120,000	43%	28,214	22,707	5	1,123	43	3,846	31	0.2
12	Корул	271,800	274,500	275,000	52%	9,596	2,437	113	1,755	52	9,601	29	3.9
13	Конур-Добо	190,000	192,000	159,300	42%	7,636	1,625	98	1,427	42	5,218	31	3.2
14	Будалык	93,000	93,500	95,000	43%	8,277	2,070	46	879	43	5,284	18	2.6
15	Чон-Алай*	394,000	405,000	531,200	35%	42,180	42,180	13	3,727	35	16,010	33	0.4
16	Кашка-Суу	426,000	548,000	1,128,000	37%	84,753	84,753	13	1,812	37	12,993	87	0.2
17	Жекеңди	310,000	306,100	376,900	27%	44,714	44,714	8	877	27	18,479	20	0.4
Average		185,865	204,353	255,953		29,895	17,884	61		43	7,919	32	2.2

* Pilc** LLU = Large Livestock Units (assume 1 horse = 1 cow = 5 sheep = 1 LLU). This is the converted grazing-livestock population as per rayon data for 1-1-2017

Annex 6. Effect Estimate Formats

These tables are also provided as a separate XLS file, called *Annex 6 - Cue-cards.xls*

For each commercial enterprise supported by Bai Alai, such a one-sheet (or even on-page) description is highly useful:

- To inform all stakeholders about the predicted finances of this enterprise;
- To improve your estimates of the financial implications of the enterprise;
- To convince donors on how

These tables are suggested as a format for calculations that have as purpose to predict (extrapolate) costs and benefits at enterprise level (blue), and to compare these with interventions by the Programme (green).

The purpose is to make transparent (more transparent than at present) how total costs and benefits are calculated. Transparency is achieved not only by clearly spelling out assumptions, but also because of formulas used, which can be checked.

Effect of Breeding Bull Support Intervention

Business model description

Bull is privately owned. JC facilitates remote pasture. Cows offered for mating are mostly owner's cows. Owners of other cows pay KGS 1000 per calf born.

Estimate of effect on business	number	unit	remarks
Number of bulls:	1	bull	So, this calculation is for one breeding bull
# of cows with bull (Jailo period)	40	cows	coincides with the main breeding period
# cows with bull (other periods)	30	cows	assumption. Depends on farmer action
conception rate of cows	80%		assumption. Herders and bull owner to verify
# calves born	56	calves	(calculated from the above)
additional value of calf, 1 yr old	2,500	KGS	Assumption. Compared to price of a local calf
Added value, compared to local bull	140,000	KGS	(calculated from the above)
Cow-owner pays per conception	1,000	KGS	Bull owner has set this price for other cow owners
Number of cow owners paying	25		assumption: cows <i>not</i> owned by bull keeper
Bull owner gets from them	20,000	KGS	(calculated from the above)
Bull owner's own calves added value	90,000	KGS	(calculated from the above)
Bull owner's benefit	110,000	KGS/y	(calculated from the above)
Other cow owner's benefit	50,000	KGS/y	(calculated from the above)

Estimate of cost to business	number	unit	remarks
Purchase of bull	120,000	KGS	price in Issyk-Kul
Transport to the farm	30,000	KGS	assumptions. Needs checking. Possibly paid by BAP
Years of service	4	years	assumption. Exchange with other bull after 2 yrs
Cost of bull per year of service	37,500	KGS/y	(calculated from the above)
Supplementary feeds	36,000	KGS/y	assumption. Very, very rough; needs checking
Any other additional cost (vet, fees)	1,200	KGS/y	assumption. Very, very rough; needs checking
Total annual cost for bull keeper	74,700	KGS/y	(calculated from the above)

Support by BAP (in kind and/or in value)

Transport of bull from Issyk-kul	
Coaching visits	12 visits
Training courses for bull keepers	
Information material	

Effect on employment and income

Hire of herder, 3 months/y	0.25	FTE	
Additional income per calf	2,500	KGS	This is an assumption, explained elsewhere
Additional income all calves	140,000	KGS	

Ideas for future development

After prove of concept, expand so each AO has at least one breeding bull able to serve 70 non-owned cows
 Registration of calves with proper passport and system to avoid fraud
 Organization for organizing bull-exhcnage, passport audit, etc.

Effect of Supporting Pasture Improvement

Business model description

Pastures are formally (to be) managed by Jayil Committees (representing pasture users). The below data are estimates of improved management of jailo (high summer pastures) and are highly speculative. Moreover, near-village pastures are not considered. Thus the below serves as a starting point only, to estimate costs and benefits.

Estimate of effect on business	number	unit	remarks
Assuming increased carrying capacity of a plot of jailo:			
Carrying capacity, present management	0.5	LU/ha	this is an assumption for a 90-day grazed plot
Carrying capacity, better management	0.6	LU/ha	assumption to be verified
Area of pasture plot used	100	ha	assumption to be changed as needed
Daily weight gain per cow over 90 period	300	g/d	assumption to be verified
Additional weight gain from 'present' to 'better'	270	kg	(calculated from above data)
Value of beef, based on kg of live weight	150	KGS/kg	assumption to be verified
Value of additional weight gain	40,500	KGS	(calculated from above data)
Assuming increased access to remote pasture:			
Carrying capacity of remote plot	0.5	LU/ha	this is an assumption for a 90-day grazed plot
Area of pasture plot now accessible	100	ha	assumption to be changed as needed
Daily weight gain per cow over 90 period	300	g/d	assumption to be verified
Additional weight gain from 'new' pasture	1350	kg	(calculated from above data)
Value of beef, based on kg of live weight	150	KGS/kg	assumption to be verified
Value of additional weight gain	202,500	KGS	(calculated from above data)
Estimate of cost to business	number	unit	remarks
Herders cost for moving herds to rotation plots	5,000	KGS/90d	assumption to be changed as needed
Road improvement to remote pasture	40,000	KGS/y	assumption to be changed as needed
Support by BAP (in kind and/or in value)			
Training courses for JC members			
Coaching visits	12	visits	
Small measuring equipment			
Effect on employment and income			
On income: see above assumptions and scenarios			
Additional herding for 100 ha	2,500	herders	This is an assumption, explained elsewhere
Ideas for future development			

Annex 7: Programme Logical Framework

These tables are also provided as a separate XLS file, called

Bai Alai Programme Log Frame			Source: ProDoc for Phase-1 BS = Baseline Survey; FT = Full-time employment PT = Part-time employment; FTE = Full-time equivalent
Hierarchy of objectives Strategy of Intervention	Key Indicators (linked to results chains)	Data Sources Means of Verification	External Factors (Assumptions & Risks)
Vision / Impact (Overall Goal / Social Level Change)	Impact Indicators		
Poverty in Alai and Chon Alai is reduced - in particular for women and youth	Change in % of population below the poverty line	District statistics + baseline survey	Project makes partial, but attributable, contributions to these goals
	Change in % of youth (disaggregated by gender, age and social criteria) who view themselves as productive members of their community	Baseline/endline surveys (individual questionnaires) (% targets and timelines to be specified based on the baseline survey, in mid-2014)	
	Change in % of youth (disaggregated by gender, age and social criteria) who view themselves as productive members of the household		
Mission (Project Goal)			
To reduce poverty by reorientation of livestock farming towards farming entrepreneurship and by fostering local business initiatives.	% increase in average total household income in the Project area: • Phase I – 40% • End of Project – 100%	Baseline + endline surveys	

Outcomes (Farm / Sector Level Change)	Outcome Indicators	Means of Verification	External Factors (Assumptions & Risks)
Component 1: Livestock – Mid-term objective			Costs CHF 1,199,400 for Phase I
Outcome 1 – Increased entrepreneurship of selected livestock farming generates additional employment and income	Added gross income due to Project: - Phase I – over \$1 420 000/year - End of Project – over \$2 660 000/year Added employment due to Project: - Phase I – about 420 FTE - End of Project – about 1060 FTE Households (%women) benefited by Project: - Phase I – over 7 400 HH benefited - End of Project – over 18 400 HH	Mid-line and endline surveys Project documents District statistics	No major political or economic turmoil takes place Local authorities and other local, regional, and national stakeholders cooperate
Component 2: Local Economic Development – Mid-term objective			Costs CHF 909,445 for Phase I
Outcome 2 – Local small and medium enterprises generate increased employment and income in selected sectors	Added gross income due to Project: - Phase I – well over \$1 560 000/year - End of Project –over \$2 660 000/year Added employment due to Project: - Phase I – about 200 FTE - End of Project – about 600 FTE Households (%women) benefited by Project: - Phase I – about 400 HH benefited - End of Project – about 900 HH	Mid-line and endline surveys Project documents District statistics	Sufficient number of entrepreneurs able and willing to invest in activities promoted by the Project
Component 3: Action research, M&E, Communication and Knowledge Management – Mid-term objective			Costs CHF 312,680 for Phase I
Outcome 3 – Project stakeholders are aware of systemic constraints and take action at policy and market level to support SME development in Alai and Chon-Alai	- Research on necessary aspects done expeditiously - Monitoring against indicators, informal monitoring by feedback from stake-holders, and CSPM monitoring by the Advisory Board performed continuously - Lessons learnt are expeditiously documented and communicated - Institutional memory is regularly updated	Project records Research reports UCA Knowledge Hub	All relevant parties are willing to share information with the Project and take Project findings into account

Outputs (per outcome) and costs	Output Indicators	Means of Verification	External Factors (Assumptions & Risks) ☐
Component 1: Livestock- Short-term objectives			Cost appr. CHF 595 000 in Phase I
Output 1.1: The production cycle in the selected cattle and small livestock farming is intensified	Increase of No. of animals of each type in Project area Increase of average price per animal (inflation adj.)	Baseline survey + district statistics Project documents	Meat prices remain favourable Marketing infrastructure will be in place
Output 1.2: The poultry business sector expanded to meet local market demands	Additional number of eggs sold in project area Ave. price of eggs (inflation-adjusted)	Alai + Chon Alai Vet Associations; Baseline survey Number & price to be specified in BS	Continued demand for local eggs
Output 1.3: Access to emerging cashmere markets is increased	Added kg of combed cashmere Increased annual income from cashmere	Osh Business Training Centre + Project documents	Cashmere prices remain favourable Lead firm or other Western buyers have demand for all production
Component 2: Local Economic Development – Short-term objectives			Cost appr. CHF 630 245 in Phase I
Output 2.1: The potential of the region in terms of roadside services, hospitality and tourism is developed	Increased number of tourists Added employments - FTE per subsector, disaggregated by gender, age and social criteria Income from all tourism in Project area	KCBTA Project records + questioning of owners	No disturbances which affect tourism (political conflicts, natural catastrophes) Road to China remains open Road to Tajikistan opened for trucks
Output 2.2: Availability of key business services is increased (incl. VET, Machinery, etc.)	50% more employed VET graduates/year, disaggregated by gender, age and social criteria Additional tons of fodder bought by farmers	VET schools follow-up of graduates District statistics Project records	Sufficient local demand for these skills Enough farmers are willing and able to invest in ag machinery
Output 2.3: Business opportunities for youth and women have increased	Increased No. of youth-owned/oriented businesses Increased No. of women-owned/oriented businesses	Project records + questioning owners	Sufficient local purchasing power
Component 3: Action research, M&E, Communication and Knowledge Management – Short-term objectives			Cost appr. CHF 100'000 in Phase I
Output 3.1: The dynamism and economic potentials of the region are well understood and documented	Number of action research studies made and published	Project records	All relevant parties are willing to share information and communicate with the Project
Output 3.2: Relevant conflict potentials and local power dynamics are closely monitored and reflected in CSPM planning	Indicators, informal and CSPM monitoring systems are up to date	Project records	All relevant parties are willing to share information and communicate with the Project
Output 3.3: Lessons learnt are systematically analysed and transformed into recommendations for policymakers	Processes established to communicate findings to local and national decision-makers	Project records	All relevant parties are willing to share information and communicate with the Project

Interventions (Service Level Change)	Indicators	Means of Verification	External Factors (Assumptions & Risks) ☐
Component 1: Livestock- Key Interventions (based on the livestock results chain, might change during project life)			
Intervention 1.1.1: Facilitate access to commercial credit for investments in livestock businesses	Volume of credits taken by SMEs	MFI records	Sufficient farmers' demand for credit
Intervention 1.1.2: Facilitate expansion of fodder area through increased use of agro-machinery	Additional areas planted to produce fodder in Alai and Chon Alai	District agricultural statistics	Farmers willing to buy hay at a price remunerative for producers
Intervention 1.1.3: Facilitate increase of number of healthier, more productive cattle	Increased number of feed lots Increased outreach of veterinary services	No. of new or expanded feed lots Records of VET associations	Sufficient local purchasing power
Intervention 1.2.1: Facilitate increased availability of chicks for poultry production	Increased outreach of veterinary services for poultry	Records of VET associations	Sufficient local purchasing power
Intervention 1.2.2: Facilitate increase in numbers of healthier, more productive layers	Number of poultry coops of 100 hens or more	Project records	Demand for local eggs = 50% of total
Intervention 1.3.1: Facilitate increased knowledge of cashmere markets and demands	Increased number of goats that are combed	Project records	Chinese traders do not start price war
Intervention 1.3.2: Facilitate local primary processing of cashmere	Number of mini-mills installed and functioning	Lead firm records	Foreign companies are willing and interested to invest

Interventions (Service Level Change)	Indicators	Means of Verification	External Factors (Assumptions & Risks) ☐
Component 2: Local Economic Development – Key interventions (based on the livestock results chain, might change during project life)			
Intervention 2.1.1: Facilitate improvement of services from tourist-oriented businesses (e.g. quality standards)	40 guest houses established or upgraded	Project records	Tourism, road use continues to expand
Intervention 2.1.2: Facilitate promotion of tourism to the region through tour operators (destination marketing)	No. of local tour operator SMEs established	Project records	Tourism continues to expand
Intervention 2.1.3: Facilitate appropriate financial products, leasing schemes and services through MFIs for SMEs	Increased Number of roadside businesses Added FTE employments in roadside business	Project records	Road use continues to expand
Intervention 2.2.1: Facilitate replacement of worn-out fleet and expand fodder production through machinery services	No. of new tractors with mowers and balers Number of spare parts dealers in area	District statistics Project records PFU+MSOSP information	Owners interested in credit financing Ayl bank expands leasing program Sufficient local demand for spare parts
Intervention 2.2.2: Facilitate service development and provision of VET schools	Both schools operate at capacity and provide quality training Students trained in marketable skills	VET schools Follow-up of graduates	Market absorbs VET school graduates Donors support Daroot-Korgon school Students are interested in study loans
Intervention 2.3.1: Facilitate business competitions for start-ups	Number of youth and women-led business start-ups	Project records + questioning owners	Sufficient local purchasing power
Intervention 2.3.2: Facilitate business associations' development and capacity to provide services to members	Number of business associations created Number of members in business associations, disaggregated by gender, age and social criteria	Project records + questioning owners	Sufficient local purchasing power

Interventions (Service Level Change)	Indicators	Means of Verification	External Factors (Assumptions & Risks) ☐
Component 3: Action research, M&E, Communication and Knowledge Management – Key interventions			
Intervention 3.1.1: Conduct need-based action research for in-depth learning	Number of research questions formulated	Project records, lessons learnt and conclusions	
Intervention 3.1.2: Develop and facilitate synergies with other research activities in the region	Number of identified secondary research or synergies with similar research (e.g. UCA Tajikistan)	UCA/MRSI research	Different stakeholders are willing to exchange research data
Intervention 3.2.1: Facilitate Advisory Board meetings for timely feedback from stakeholders on conflict dynamics and the role of the project	Number of members and meetings conducted by Advisory Board	Meeting minutes	Local stakeholders are interested and available to form part of the Advisory Board
Intervention 3.3.1: Formulate policy questions and recommendations for national decision-makers based on project experience	Number of motions and policy papers submitted at the national level	Project records	Findings from the project can be applied to broader contexts
Intervention 3.3.2: Establish a knowledge hub for information exchange and networked learning	Number of site visits online	UCA/MRSI records	