

MARKET ALLIANCES AGAINST POVERTY IN THE SAMTSKHE-JAVAKHETI REGION OF GEORGIA

Creating a sustainable market for AI services: an interim case study

Sarah Brown (The Springfield Centre)

With input from Tim Stewart, Giorgi Sadunishvili and Khatuna Kurdadze (Mercy Corps, Alliances)

October 2010



THE SPRINGFIELD CENTRE
FOR BUSINESS IN DEVELOPMENT

Suite One, 4 Saddler Street
Durham DH1 3NP
United Kingdom

Tel: +44 191 383 1212

Fax: +44 191 383 1616

Email: global@springfieldcentre.com

TABLE OF CONTENTS

Preface	3
<i>The project</i>	4
1. Introduction	4
2. Understanding the market.....	5
<i>Market analysis</i>	6
<i>Problems in the AI services market</i>	6
<i>Previous AI services</i>	7
<i>Underlying constraints</i>	8
3. Strategy and Facilitation.....	9
<i>The vision</i>	9
<i>The logic</i>	10
<i>The strategy</i>	11
<i>New business model</i>	12
<i>Bull replacement scheme</i>	13
4. Outcomes and Impact.....	15
<i>An embryonic market</i>	15
<i>Developing the business model</i>	16
<i>Reaching remote farmers</i>	17
5. Lessons and challenges.....	18
<i>Facilitation</i>	18
<i>Entrepreneurship</i>	19
<i>The right staff</i>	19
<i>The way ahead</i>	20
6. Annex A – References	21
7. Annex B – Breeding services intervention logic.....	22
8. Annex C – An introduction to M4P	23
9. Annex D – Map of number of cows served by AI	24
10. Annex E – Number of cows served by bull replacement scheme (and AI).....	25

MARKET ALLIANCES AGAINST POVERTY IN THE SAMTSKHE-JAVAKHETI REGION OF GEORGIA

A CASE STUDY: creating a sustainable market for AI services



Preface

Development practitioners often find themselves up against problems faced by their peers and predecessors. They apply different methods and achieve different levels of success. Sadly, success often fails to outlast their project. The withdrawal of donor funds and the end of project activities means there is usually no one left to pay for deliveries of fertiliser, vets' salaries, farmer training or whatever the project was doing.

Yet how long success will last, how long project activities will make a positive difference to the lives of poor people, is fundamental to M4P. Every activity is conceived and designed to ensure positive changes survive the project. Practitioners of M4P therefore avoid becoming part of the market system, a system they will inevitably leave. Instead they work with other players who will remain in the system and help them to perform new functions or the same functions better. The idea is to change the system not to become a part of it.

This case study illustrates how an M4P project is going about changing the livestock system in one region of Georgia to the benefit of small-scale farmers.¹ It focuses on one area of intervention, cattle breeding, and tells the story of how the project staff found the right players to work with, how they persuaded them to adapt their roles, how they helped them do so and how they are continuing to work to ensure the modest success achieved so far is likely to endure long after the project finishes.

¹ A small-scale farmer is defined as one with five or fewer breeding cows.

The project

Market Alliances Against Poverty (Alliances) is a Swiss Agency for Development and Cooperation (SDC) funded project operating in the Adigeni, Aspindza and Akhaltsikhe municipalities of Samtskhe-Javakheti region in Georgia and implemented by Mercy Corps. Alliances aims to improve the incomes of poor rural households by helping small-scale livestock farmers gain better access to markets, information, services and technologies. The project began designing its strategy in October 2008 and running pilot activities in July 2009. Full implementation began at the start of the 2009 to 2010 agricultural season. The cattle breeding intervention described in the case study was one of the first to get underway. This interim case study assesses the new approach being taken by the project, with specific reference to the intervention in cattle breeding. It also analyses the initial outcomes and prospects for future impact. This phase of the project is due to finish in December 2011.

1. Introduction

The Georgian economy still bears the scars of the collapse of the Soviet Union and this is especially true of the agricultural sector. The collective farms, the *kolkhozy*, were fairly productive because of their large land holdings, mechanisation, irrigation and use of subsidised inputs. But the 1992 Land Reform Act broke up the *kolkhozy* and redistributed the land, machinery and livestock forcing a return to a more subsistence style of farming. 54% of the population are now employed in agriculture² and the average land holding is only 0.87ha.³

In Samtskhe-Javakheti 84% of the population are employed in agriculture⁴ and the average land holding is 0.92ha.⁵ 83% of these farmers are small-scale livestock producers i.e. they own between one and five cows. Most farmers also grow potatoes and/or maize. The landscape is not well-suited to other types of farming. But this blend of livestock and a main crop only supports a subsistence livelihood for the majority of farmers in the region, given the size of their land holdings.

The livestock provide cheese and other dairy products to satisfy household consumption and potentially a small surplus that can be sold for cash to buy other basic goods. In fact 74% of families in Samtskhe-Javakheti produce solely for their own consumption with 15% producing enough for themselves and a surplus to sell.⁶ Occasionally, a farmer will sell an animal to raise money for a bigger purchase but generally they do not raise cattle to sell for meat. Overall this means 64% of the population fall below the poverty level as measured against the official margin of living wages. This is compared to 56% nationally and 60% of the rural population.⁷

An obvious target for development in Samtskhe-Javakheti is therefore the productivity of livestock, particularly in terms of milk yields. If more households could produce a (bigger) surplus of milk or cheese, they could increase their cash incomes. Critically, there is demand in the domestic market so they would be able to sell their produce. Georgians consume a lot of dairy products and have a preference for fresh and local produce.⁸ 75% of Georgia's dairy products are produced domestically and 98% of production is by small-scale farmers⁹.

² Alliances, *Livestock Sub-Sector Survey of Three Municipalities of Samtskhe-Javakheti*, March 2009, p8.

³ Ibid. p15.

⁴ Ibid. p9.

⁵ Ibid. p15.

⁶ Ibid. p15.

⁷ Ibid. p10.

⁸ The average Georgian household consumes 72kg of dairy products per year. Ibid. p17.

⁹ Ibid. p8.

Over the past few years there has been an increase in the proportion of dairy products imported, which are mostly destined for processing. Processors import fresh milk due to hygiene requirements and powdered milk because it is cheaper. However, if hygiene conditions can be improved, Georgian farmers can compete with fresh milk imports and if labelling legislation comes into force it may be possible to replace powdered milk imports (consumers prefer fresh and local milk products). Even more ambitiously, farmers in the region could benefit from the growth of local processing. Potentially, part of the value added through processing could be passed back to farmers supplying local processors.

Overall, demand is high and supply is low, offering a strong opportunity for small-scale farmers to sell more milk. While the ability to respond to this opportunity is not uniform, many small-scale farmers have the capacity and resources to increase production through more intensive or extensive livestock farming; they already have animals and land. Understanding precisely why farmers have not responded to these opportunities became the starting point for the Alliances project.

Alliances' rationale for intervening in the livestock market in Samtskhe-Javakheti thus has seven elements:

- Samtskhe-Javakheti is a particularly poor region of Georgia;
- The majority of poor people in Samtskhe-Javakheti are small-scale farmers with five or fewer cows;
- Most small-scale farmers only produce enough milk to satisfy household consumption and leave a small surplus for sale;
- There are limited opportunities for small-scale farmers to diversify their incomes;
- There is high demand for milk and milk products in Georgia, some of which is currently being met by imports;
- New labelling legislation may increase demand for fresh milk (the demand already exists but people are unable to act on it as products are not labelled as from fresh, powdered or imported milk).
- Small-scale farmers have the capacity to respond to this demand if constraints in the sector are addressed.

2. Understanding the market

As an M4P project, Alliances' priority is large-scale sustainable impact. So not only do they want to improve the incomes of many small-scale farmers, they want to ensure farmers can maintain improvements or even increase them further after the project has finished. Sustainability, in this context, can be defined as ongoing access to goods and services (after the project lifespan) that enable small-scale farmers to increase the production and productivity of their livestock and consequently increase their incomes. This principle of sustainability guides the design and implementation of all Alliances' interventions.

Given sustainability is a priority, it is important to address the (underlying) causes rather than the symptoms of the problems facing the poor i.e. why farmers are not responding to opportunities to improve their position. This means the first step in an M4P project is careful analysis of the system in which the poor are operating to discover the precise reasons for their poverty and identify potential pathways out of poverty.

The small-scale farmers of Samtskhe-Javakheti face many problems including low genetic potential of their cattle, poor access to inputs such as feed concentrates, poor access to services such as information and vets and poor access to buyers of fresh milk or cheese. All these factors contribute to low milk production and poor cattle growth. Conventional approaches attempt to fix these problems directly, for instance by giving farmers AI services or improved cattle and supplying them with inputs. But such a strategy is inherently limited. There is only ever enough time, money and staff to assist a limited number of farmers. There is no guarantee of sustainability. And these approaches offer no leverage to stimulate

market players to follow the project's example. Essentially, to design a long term solution it is necessary to understand why the system does not already provide inputs and services.

Market analysis

To gain this understanding, Alliances conducted a two-stage process of market research. First, they sketched out the market in question to ensure all elements were considered, including *related markets*. M4P conceives of a market as consisting of three parts:

- the core – the buyers and the sellers of a product or service;
- the supporting functions – the other goods and services (typically services) that help the core work properly such as training, research, coordination and infrastructure;¹⁰ and
- the rules – both the formal and informal rules that govern how the buyers and sellers in the core work together. For example, legislation, industry standards, consumer preferences, social and cultural norms.

Related markets also have these three parts or dimensions. A problem in a particular market can ultimately be caused by a problem in the core, the supporting functions or the rules of either the specific market or a related market.

In the second stage Alliances traced each problem to its origin(s) to uncover all the various elements that could be jointly or separately causing it. They identified the critical points at which intervention was both feasible and likely to have the greatest impact for small-scale farmers.¹¹

The specific market in question is the livestock market with the farmers and buyers of dairy and meat at the core. There are a number of supporting functions such as feed supply and information services as well as a number of rules such as government legislation and customary practices. Some of these supporting functions can be conceived of as markets in their own right. A full analysis of the livestock market would take several pages so the artificial insemination services market is used here to illustrate the process.

Problems in the AI services market

As already noted, one significant problem for farmers is the relatively low milk yield of the local Caucasus Mountain cattle breeds. These scrawny but hardy cows that dot the pastures of Samtskhe-Javakheti tend to yield about twelve hundred litres of milk per year. The advantage of these animals is that they are well-adapted to their circumstances. They require little food and water and cope admirably with the tough mountain terrain. Their diet is restricted to summer grazing and winter hay with little supplementary feeding. This partly explains such dismal production levels but their genetic potential to produce more milk is also limited.

In Soviet times local breeds could yield nearly 2000 litres per year. But after the collapse of the Soviet Union many of the highest quality animals were slaughtered for their meat rather than kept for breeding. The free artificial insemination services organised by the state almost vanished. Many people became farmers through necessity rather than choice when they lost their jobs so they lack knowledge about good breeding practices. The loss of high quality animals, AI services, knowledge on good breeding practices and access to information led to deterioration of the genetic stock and drastic fall in milk yields. Only 5% farmers own some form of improved cattle.¹²

¹⁰ It is not possible to give an exhaustive list of supporting functions.

¹¹ It may be that, in practice, an M4P project is unable to address an underlying cause for a particular reason e.g. it is a deeply embedded social norm. Then the project has to determine at which point in the causal chain it can intervene to greatest effect.

¹² Alliances, *Inception Phase Overview*, June 2009, p3.

This explains the poor genetic quality of the current cattle but it does not explain why, in the two decades since the collapse of the Soviet Union, no organisation or individuals have seen an opportunity to make a profit from supplying small-scale farmers with artificial insemination services and other information on good breeding practices and built a business to do so.

Alliances did further research to unearth the constraints to the endogenous formation of a market for AI services which revealed that less than a hundred and fifty households of approximately twenty eight thousand had paid for AI services in 2008 i.e. less than one percent.¹³ This was odd set against the claim of most farmers that breeding was their number one priority. Clearly there was either very low demand for AI as a breeding practice or very low supply. In fact the problem is both with supply and demand.

Previous AI services

The vast majority of small-scale farmers keep their cows in a herd comprising the animals of several families. One farmer owns a Caucasus Mountain bull that inseminates all the cows in the herd for which the owner is paid either a small fee or given some labour or products in kind. From the farmer's point of view this is a reliable service. Almost all cows have calves through natural insemination, in part due to the relatively high ratio of one bull to eleven cows in the region.¹⁴

In comparison, of the fifty cows Caucasus Genetics inseminated in 2008 only thirty produced a live calf. In 2009 87 of 145 cows inseminated through AI gave birth to a calf. So Caucasus Genetics claim roughly a 60% birth rate.¹⁵ For this service they charged 30 GEL, approximately 18 USD. A 60% birth rate is acceptable but in contrast to the birth rate through natural insemination it is poor and left many farmers unconvinced of the value of the service.

Other donor-funded projects have offered AI services in the region in recent years. Some of them have achieved higher conception and birth rates because of the use of highly trained practitioners and high quality inputs. For instance, the EC-funded Linkages project achieved an impressive 81% birth rate. One unfortunate consequence of these high rates is the expectations it raises in the local population and the unfavourable comparison with locally provided AI services. 60% is a realistic and reasonable conception rate for AI in Georgia where the practitioners are relatively inexperienced, inputs are not always top quality and the cows being serviced are of low genetic potential and not given the best feed or health care. But when donors give the impression that local providers are inefficient this undermines the demand for their services.

Another consequence of these projects is the tailing off of supply of AI services. This is basically because the services were organised and paid for by a donor project and so when the project finished an essential element of service provision also finished. In some cases it was something as critical as access to quality inputs. But often it was the loss of the coordination underpinning the service, in particular the linking of AI practitioners to farmers, that meant locally trained practitioners floundered. Some practitioners may still have found clients through word of mouth and been able to source crucial inputs like semen and nitrogen but without a ready source of clients and the ability to maintain quality the service inevitably fell away. Practitioners often faced the additional hurdle of having to charge farmers for a service they had previously received free from a donor project.

In spite of many efforts over the past decade and more the AI services market remains seriously under-developed. This shows that neither Caucasus Genetics nor any donor

¹³ A survey of 10% households showed 11 of 2800 households had paid for AI services. Caucasus Genetics reported they had provided AI services to 145 households.

¹⁴ There is no scientifically quantified figure for the success rate of natural insemination in the region but anecdotally it is well over 90%.

¹⁵ Interview with Caucasus Genetics management, 15 September 2009.

project had addressed the underlying problems in this market. In fact, none of them had even tried to do so. Interventions were aimed at addressing the problem of lack of supply of AI services and not the deeper problems causing the lack of supply. The low level of demand was also ignored. Caucasus Genetics and donor projects operated in a restricted area entailing low awareness of the services and limited access. The Caucasus Genetics' AI services were low quality and unreliable, particularly compared to natural insemination. This inevitably led to low demand. Farmers preferred to stick with a free or cheap and more reliable service (the bull in the herd) rather than pay 30-50 GEL for the kind of AI services available. The suppliers of reasonable quality services through donor projects struggled to maintain standards without support from a coordinating body so demand also dropped for their services.

However, given that breeding was the avowed top priority for most farmers, high quality services could potentially enjoy a large market. So the real questions are why the Caucasus Genetics AI practitioners did not offer a better service, why the practitioners involved in donor projects did not organise themselves to uphold standards and why no competitors emerged to provide a better and more extensive service. To put it another way, what were the constraints to the spontaneous emergence of a well-functioning market in AI services?

Underlying constraints

Some AI practitioners were employed by Caucasus Genetics. Yet Caucasus Genetics did not offer regular training or new equipment. The company was reluctant to invest in its practitioners or expand its network partly because it was low on funds but also because it was uncertain about the returns. Even though Caucasus Genetics believed farmers wanted decent AI services, they feared that occasional projects of free services by donors and statements from the government about free provision undermined farmers' willingness to pay. This would also explain why practitioners trained by various projects did not organise themselves and why no competitors materialised. It was hard to judge if there was a genuine market with long term prospects for profit. Some elements of AI are expensive and difficult to put in place e.g. high quality semen, reliable cold chain storage and distribution, the correct equipment and fully trained practitioners offering a consistent service. Investors need to be confident of the return on upfront expenditures.

One consequence of the Soviet-government-donor domination of AI in Georgia is a shortage of people with experience of how to effectively manage it as a private business. Caucasus Genetics had made some tentative steps towards commercialising their services but their main sources of income were still government and donors. Other practitioners had only ever been paid a salary by a donor for their work rather than charged a fee for a service. This business inexperience was also a constraint to the development of an AI services market.

So, in the M4P conception of market systems, Alliances found that there were problems in all three parts of the AI services market. The buyers (farmers) were unwilling to pay. The sellers (AI practitioners) were offering a poor quality service. The service was poor quality because of weak supporting functions such as training and coordination (by Caucasus Genetics and donor projects). But the origin of all these problems could be traced back to problems in the informal norms governing the market, namely that both buyers and sellers expected donors and the government to provide free AI services.

By identifying the underlying constraints to the emergence of an AI services market Alliances put itself in a position to design an intervention that would produce a sustainable solution. Of course Alliances is not able to influence the behaviour of other donors and the government i.e. it cannot intervene against an underlying constraint. But the project can hope to make a difference in respect of business inexperience and the perceived and actual risks of investing in AI services. (See Figure 1 for a diagram of the AI services market and how it relates to the livestock market system.)

Figure 1: Diagram of livestock market system and related AI services market

3. Strategy and Facilitation

Many problems facing small-scale farmers can be temporarily fixed with cash. Feed can be provided to farmers, trainers can be brought in and paid and vets can be subsidised. Increased supply of AI services can also be bought; a project can pay practitioners to perform free or subsidised services. This is what various donor projects had already done in Samtskhe-Javakheti over several years. But Alliances' priority is large-scale sustainable impact. This means they are not interested in being the purchaser and distributor of goods or the commissioner and deliverer of services. They want to find local actors to perform these functions.

For example, they were not prepared to pay for AI services for the three years of the project. They wanted to find someone able to provide, and continue to provide, services at a price farmers could afford and convince the farmers to pay for it. In other words, they had to create a sustainable market for AI services. Bearing in mind the constraints to the development of an AI services market and the principle of sustainability, Alliances' strategy consists of several key steps and tactics:

- setting out a clear vision of the AI services market;
- constructing a clear logic outlining the links between project activities and the vision;
- developing and implementing a strategy to create a commercial business model for AI services;
- testing other options to improve breeding practices.

The vision

Alliances wants to stimulate the formation of a market for AI services. Their picture of a well-functioning market is of a situation in which farmers, both large and small-scale, pay

practitioners to perform AI services on their cattle. The services are high quality and reliable with an acceptable conception rate and birth-rate. The calves produced are significantly heavier at birth and have significantly higher milk yields than unimproved cows. These changes mean small-scale farmers can get more money from selling an improved calf and more money from the extra milk produced by an improved cow.

The logic

Having identified the main constraints to the organic formation of a market for AI services, Alliances outlined the logic that would lead from the current dysfunctional market to their vision of an improved market. Simply, increased sales of AI services will lead to increased ownership of improved cattle. This will produce higher milk yields and better growth rates in cattle that will lead to increased sales of milk and meat by small-scale livestock producers and consequently will increase incomes in poor rural households.

This logic is outlined in the diagram below (**Figure 2**), often referred to as an impact logic or results chain (for a more detailed version see Annex B). The purpose of the diagram is to make explicit the logic underpinning the project's choice of activities. It also has the advantage of allowing flexibility: it is the pro-poor benefits that matter rather than the particular route by which the result is to be achieved. The use of these results chains is a distinctive feature of M4P projects and contrasts with more traditional styles of development. Traditional approaches often do not spell out all the links in the chain between their activities and their anticipated outcomes. If they do, they often do not indicate any expected change within the market system which exposes the fact that when the project closes it is likely the outcomes will not be permanent. Projects following a traditional approach also tend to adhere to plans rather than being able to respond to changes in the market that offer opportunities to stimulate pro-poor growth.

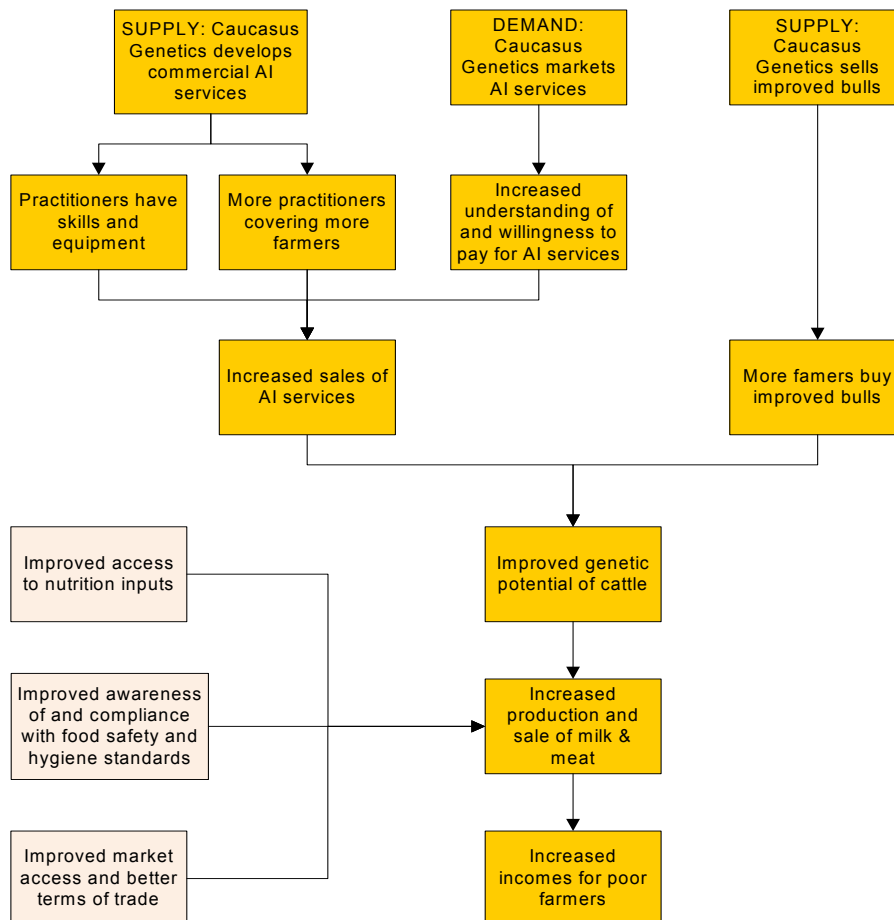


Figure 2: Simplified results chain for improved breeding intervention

The strategy

With the results chain as a guide, Alliances' strategy was to find an organisation willing and able to begin providing AI services on a commercial basis and then mitigate part of the risk through a combination of joint design of the venture and temporary financial support. The strategy would also begin to address the secondary constraint of limited business experience in the sector; Alliances would share their expertise with the chosen partner organisation and the venture itself would expose the partner to a more commercial style of operation.

Choice of partner

Caucasus Genetics was the obvious choice of partner as the only company previously involved in AI in Georgia. Caucasus Genetics were also convinced of the potential for commercial AI services but wary of the risks in an unpredictable environment. They had relied on getting government and donor contracts to provide AI services. This source of revenue was erratic and shrinking which was putting them under pressure to change their business model. But the shift to charging on a commercial basis required considerable investment as paying customers would demand a higher level of service.

Supply-side interventions

Initial discussions resulted in an agreement to train practitioners, buy new equipment and market the service more effectively. The agreement aimed to improve the supply-side of the market by raising the performance of the AI practitioners, first by training them and second by providing them with new, more sophisticated equipment. Better training and better equipment should help them reach higher conception rates, thus making their services more attractive, expanding their customer base and increasing sustainability. It would also enlarge the network from the three currently in operation to twelve practitioners.¹⁶ Seven of the nine new practitioners are members of the local vet association which means they can offer vet services to AI customers and vice versa.

Demand-side intervention

At the same time there was an effort to kindle demand through more effective marketing. In the past practitioners had relied on word of mouth to sell their services or donor selection of farmers. Under the agreement, Caucasus Genetics partnered with a local business centre, ABCO (Association of Business Consulting Organisations), to create a 'shop window' for AI services in Samtskhe-Javakheti. Essentially this is a central point for marketing Caucasus Genetics branded AI services and listing contact details for practitioners.

Increasing coordination, reducing transaction costs

ABCO also provides a representative for Caucasus Genetics in the region. His role is to deliver Caucasus Genetics' equipment and semen to the AI practitioners, report their requirements to Caucasus Genetics and help organise training. Having a representative in the region helps to streamline the coordination of the eleven practitioners for Caucasus Genetics, whose main office is in Tbilisi, and reduce transaction costs for both parties.

Price of AI service

While Alliances did not consider that charging for AI would deter farmers, in as far as farmers are willing to pay for a service they value, it was difficult to anticipate precisely how much farmers would be willing to pay in the first year. Only a few farmers had been willing to pay 30 to 50 GEL for a poor quality service. As it takes nine months to demonstrate the quality of AI (when the calves are born), the first tranche of farmers would obviously be taking a gamble that AI would be successful for them.

¹⁶ Only eleven practitioners became operational as one withdrew from the process.

In the end it was decided that both Caucasus Genetics and Alliances would pay some of the cost to give early customers a discount on the real price. The total cost of the service was 30 GEL. Semen and other inputs cost 15 GEL and practitioners received a 15 GEL fee. Caucasus Genetics contributed 15 GEL (to cover the costs of inputs) and Alliances added 7.5 GEL when the service was done for a small-scale farmer. Thus the service was marketed at 15 GEL (which large-scale farmers paid) but a time-limited, 50% discount was offered to small-scale farmers who consequently paid 7.5 GEL.^{17,18} This was done in the expectation that future publicity about the benefits of the service would encourage even small-scale farmers to invest in the relatively small upfront cost of an AI service.¹⁹

Overall the agreement split the costs of the intervention between Caucasus Genetics and Alliances at 36% and 64% respectively.²⁰ This was a radical step for Caucasus Genetics. Previously donors had simply paid for delivery of a certain number of services. But Alliances demanded a financial contribution from Caucasus Genetics in order to be confident that they were committed to the intervention or, in other words, that they were serious about creating a market for commercial AI services.

Added value

Subsequently Alliances wanted to add extra value to the AI service by training the practitioners in record-keeping, animal husbandry, dairy farm management, pasture and grass management and other subjects of use and interest to farmers. This would increase the attractiveness of the service for farmers. Therefore another grant agreement was signed in April 2010.²¹ Alliances was also anxious about Caucasus Genetics' ability to monitor and develop its own service provision so the agreement included the design of a database to store and analyse business data. A website was created to further promote Caucasus Genetics' products and services. Overall Alliances' contribution was higher in this agreement at 83% but Caucasus Genetics still demonstrated their appreciation of the importance of professional business practices by paying 17% of the costs.

New business model

The strategy marks a departure with the past. Previously Caucasus Genetics had delivered services on behalf of donors. The donors (or sometimes the government) identified the farmers they wanted to receive the service and paid Caucasus Genetics to undertake artificial insemination on a certain number of cows. Caucasus Genetics employed its technical expertise in AI and some of its practitioners received training but they did not gain any commercial understanding of their customers and the potential market. Essentially this was because their customer was the donor.

In shifting to a genuinely commercial business model, Caucasus Genetics has a different set of issues to consider.

¹⁷ The Oanda average exchange rate for USD to GEL in the first eight months of 2010 was 1 USD:1.78 GEL. This means small-scale farmers paid 4.21 USD for the AI service. See <http://www.oanda.com/currency/historical-rates>.

¹⁸ Caucasus Genetics allows its practitioners to set their own fee rates. Most practitioners charge about 10 to 15 GEL. Farmers in more remote places may also be asked to pay fuel costs for the practitioner.

¹⁹ It is common practice to value products and services according to 'milk days' i.e. the value of milk sold in one day. At an average price of 0.475 GEL per litre, a typical Caucasus Mountain cow will produce 5 litres worth 2.38 GEL per day. So the discounted price of one AI service is approximately 3 'milk days'. In future, the commercial price of one AI service could be 30 GEL or about 12½ 'milk days'.

²⁰ Alliances is aiming for an average of 35% co-investment across the whole project.

²¹ This part of the intervention also addressed a more general constraint on farmers' ability to improve their businesses; lack of access to information.

- First, they have to understand their customer: which farmers – what size and where - want AI services, what kind of service they want, how much they are willing to pay and how to reach them.
- Second, they have to develop the business model. This involves several elements: sourcing and costing the inputs, which they already have experience of; identifying new practitioners and training all of them (three existing and nine new); arranging the transport and delivery of the equipment, nitrogen and semen for the practitioners, which was a new process through ABCO: developing and conducting a new marketing campaign, again a new process in conjunction with ABCO; agreeing terms, conditions, fees and payment with the practitioners and ABCO.
- Third, they have to devise a business strategy: their priorities, their targets, their marketing campaign and their monitoring of service quality and customer satisfaction.

Samtskhe-Javakheti offers a promising avenue for expansion for Caucasus Genetics because of the dominance of livestock in the region. Although there is some arable farming, more than 80% of households own cattle and the largest livestock market in Georgia is located in Akhaltsikhe, the regional capital. But on top of the history of donor projects, this kind of market is not easy to penetrate because the majority of farmers are small-scale and living in scattered, sometimes quite remote villages.

In terms of the three sets of issues listed above, and with information and advice from Alliances, Caucasus Genetics understood that the bulk of their customers would be farmers owning fewer than ten cattle and a majority of these would own fewer than six. It was difficult to predict how much farmers would be willing to pay so, with Alliances' financial support, a significant discount was offered for the first year. In order to both reach the farmers and have the most reliable practitioners, most new practitioners were recruited from a local vet association. These men have plenty of experience of livestock and particular knowledge of the farmers in their own communities. They are all based in relatively accessible villages with reasonable sized populations to give the practitioners a decent chance at reaching the target of fifty AI services each in the 2010 agricultural season. Alliances and Caucasus Genetics agreed that approximately fifty services per practitioner would indicate genuine demand for the service and potential financial viability.

Marketing to advertise the service to farmers is done partly through word of mouth by the practitioners who are all well-known figures in their communities and partly through a formal campaign of posters and leaflets distributed in villages and at the ABCO office in Akhaltsikhe. All marketing materials are branded with Caucasus Genetics' logo rather than Alliances' to ensure customers see Caucasus Genetics as the supplier rather than a donor and hence are more willing to pay. The practitioners and ABCO are also required to record and collate data on the services they deliver so Alliances can monitor impact but, crucially, so Caucasus Genetics can develop their service.

Bull replacement scheme

Plenty of the more remote, mountainous villages will remain beyond the reach of or at least under-served by AI practitioners for the foreseeable future. Moreover, the cows in these villages tend to be smaller and are unsuitable for crossing with a pure Swiss-Brown or Jersey: the size of the resultant calf would be likely to cause calving difficulties. Alliances is considering other options to improve breeding practices in these areas.

One option already trialled is a bull replacement scheme which they proposed to Caucasus Genetics. Under this scheme, a bull-owner sells his old Caucasus Mountain bull for slaughter and puts the revenue from this sale (500 to 600 GEL depending on the weight) towards the cost of a new Caucasus Brown bull (a cross between a Caucasus Mountain and a Brown Swiss). Alliances pays the additional cost for the cross-bred bull (approximately 300 GEL more than the Caucasus Mountain bull) which Caucasus Genetics sources, inspects, tags, provides a passport and delivers. In this way remote communities or farmers with

particularly small cows also have access to higher quality genetic material, if their cows run in the same herd as an improved bull. The scheme can also potentially expand Caucasus Genetics' market by increasing the size of cows in these areas such that they are suitable for AI and introducing more farmers to the concepts and practices of better breeding.

Unlike donor projects that simply provide improved bulls directly to farmers, the intervention is designed to test the potential for a commercial scheme of bull replacement. Hence Alliances restricts its involvement to paying the difference between the local and cross-bred bulls and Caucasus Genetics undertakes the sourcing, delivery and other aspects of the service. However, to date, the bull replacement scheme has highlighted the different priorities of Alliances and Caucasus Genetics. In the case of AI services, while both organisations have different motives – Alliances wants small-scale farmers to improve the genetic potential of their cattle and Caucasus Genetics wants to expand their service provision to increase their profits – they can use the same means to achieve their different ends, namely extending AI provision across Samtskhe-Javakheti. But while Alliances, from its position as a facilitator, is keen to explore different approaches in improving the genetic potential in cattle for small-scale farmers and extending access, Caucasus Genetics is focused on developing its business and making a profit. Brokering bull replacement is not as important to the company as improving its AI service delivery. This divergence of interests means Alliances has had to shoulder the bulk of the costs for this intervention and, for now, Caucasus Genetics are not the right partner to use the scheme to bring improved breeding to more remote communities with smaller cows on a significant scale.

Nevertheless the scheme will provide useful commercial information for Caucasus Genetics. It will show, albeit to a limited degree, whether farmers are willing to exchange a local bull for a cross-breed although not how much they are willing to pay for the improved bull. This will allow Caucasus Genetics to design a service, whether brokerage of cross-bred bulls or direct supply from their own stud farm, for a different segment of the market i.e. it will also allow them to expand and diversify their business. This is precisely the benefit a facilitator can bring to a market and a tactic Alliances employs quite effectively; it can help a company or other organisation within a market to adapt or change their role because a facilitator can reduce the associated (or perceived) risks.

Table 1 - Constraints and interventions in the AI services market

Underlying constraints in AI market	Intervention
Low demand/uptake for AI services	Discounted price
Poor quality, unreliable service	Investment in training, equipment Extra training in livestock related subjects
Restricted awareness of service	ABCO 'shop window' to advertise and provide contact details Better marketing e.g. posters, leaflets, website
Restricted access to service	Increase in number of practitioners Bull replacement scheme
Lack of coordination of practitioners	ABCO as central point between practitioners and Caucasus Genetics
Some high upfront costs for investors	Cost-sharing between Alliances and Caucasus Genetics
Reluctance to invest in unpredictable environment	Cost-sharing Creation of strong brand to compete with free services
Shortage of business experience in sector	Alliances' investment of time and expertise Partnership with ABCO Database to monitor business

4. Outcomes and Impact

A clear logic outlining the changes activities are intended to create in a market and the results that are supposed to accrue to the poor means impact can be measured at different levels at different times. The timeframes in livestock farming mean that typically it will take months or years for results to accrue to small-scale farmers, particularly in terms of increased incomes. But changes in the market can be measured much earlier and can give clues as to whether farmers are likely to receive the desired benefits.

The measurement of changes in the market is a defining feature of M4P projects. For a development project that supplies goods or services directly, measurement focuses on what the project has done or provided and the impact on poor people. There is no attempt to influence the market and so no need to measure change within it. An M4P project measures changes in the market because it is premised on developing the market so it can supply goods and services in the future without the support of external bodies like donors and hence have a broad, sustainable impact on poverty.

Ripsime Atamian has three dairy cows. In 2009 two of her cows had free artificial insemination and one gave birth to a cross-bred Jersey calf. This calf has grown much faster than her other Caucasian Mountain calf and has convinced her of the benefits of a high quality AI service. Ripsime heard about the new service because the practitioner lives in her village and he had put up posters. She wanted to get both cows inseminated but only managed one because the practitioner was not available at the right time. She is willing to pay for a quality service.



Alliances has results chains for all its interventions and measures key indicators at various levels to monitor the changes within the market, the impact at household level and the likely sustainability of changes. As one of the most advanced interventions, the AI intervention is already showing changes in the service market. Of course the ultimate purpose behind intervention in the AI services market is to increase incomes for small farmers by helping them improve the genetic potential of their cattle to yield more milk and increase liveweight so they can sell more milk at a profit and have higher value animals (because they are heavier). But this will take time. This case study is being written during implementation. Caucasus Genetics only began their partnership with Alliances in the 2010 agricultural season so as yet (September) it is still too early to know the conception rates of the AI practitioners. Therefore it is too early to rate the quality of their work. Conception rates will be assessed in October and live births will be counted from January to March. Nevertheless, it is still possible to measure impact at the service level.

An embryonic market

It is already evident that an embryonic market in AI services exists. 273 farmers paid to have 467 cows inseminated, albeit at discounted prices. This is a big increase on preceding years, which validates the new commercial approach proposed by Alliances and implemented by Caucasus Genetics. Not only is there potential for continued provision of AI services without donor support, more farmers than before have had access to AI.

Benefits to farmers

Early projections also enable Alliances to go beyond the changes at the service level and estimate the value of the intervention for farmers²². A cross-bred calf, on average, weighs 12kg more than its Caucasian Mountain counterpart one month after birth. The price per kilo of liveweight is 3.15 GEL (USD 1.77). So the value of an improved calf, just in terms of its

²² Estimates are based on assumptions about additional liveweight and milk yield using information from improved cattle in other areas. Actual liveweight can be measured next year after calves are born. It will not be possible to measure additional milk yield until 2013.

Khacho Chalkhoian is one of Caucasus Genetics' eleven AI practitioners in the area. He has worked for donor projects and Caucasus Genetics in the past. He likes the partnership with ABCO as it means he doesn't have to arrange for delivery of semen and nitrogen from Tbilisi. His clients this year were a mixture of those who had tried AI before and those who had just seen the promotional posters. He couldn't respond to all of the requests because farmers didn't contact him in time or he was unable to travel to the farm. He thinks most farmers are keen to pay for AI services when they see a neighbour's cow produce a larger, healthier calf.

extra weight, is 37.8 GEL (USD 21.24). This is 7.8 GEL more than the full commercial cost of an AI service. In terms of milk, an improved cow is estimated to yield 460 litres extra per year. At the current milk price of 0.475 GEL per litre (USD 0.27) that is equivalent to additional income of 219 GEL (USD 123) per year.²³ And if the intervention is successful in establishing a sustainable AI services market, these benefits will be available to all farmers in the region (within range of a practitioner) every year.

A more professional service

However, as these benefits lie in the future and the actual quality of the service can only be judged retrospectively, namely when calves are born next spring, what accounts for farmers choosing to pay for AI this year? Some credit belongs to previous projects and practitioners: a number of farmers have definitely been encouraged to try AI based on their own or their neighbour's experience of heavier, higher milk-yielding calves bred through

artificial insemination. But the real expansion in the number of farmers choosing AI is down to more effective marketing and the ability to follow up on requests. The 'shop window' managed by ABCO and advertising in the area has publicised the new service to more farmers than in the past. The new network of eleven practitioners, supported by Caucasus Genetics through ABCO, has been able to respond to many enquiries. Although quality of service cannot yet be validated, the access to information, advice and inputs has helped the practitioners to deliver a more professional service than when they could only deal with Caucasus Genetics via the Tbilisi office.

Developing the business model

Crucially 63% of the farmers buying AI services are the small-scale farmers whose incomes Alliances wants to raise, the very farmers that many people have doubted will pay for AI services. The initial intervention has established a willingness to pay even though the target of fifty services per practitioner was not quite reached.²⁴ The question now is, 'how much are farmers willing to pay?' Of course, this season small-scale farmers only paid 7.5 GEL, a highly discounted rate. Both Alliances and Caucasus Genetics recognise the risk that these farmers will be reluctant to pay a fully commercial rate but are working to mitigate it.

The strategy is to evaluate and refine the business model, with costs reduced as far as possible, the quality of service improved and effective marketing campaigns set up. The cost of semen will come down in 2011 as Caucasus Genetics' new stud

Caucasus Genetics is pleased with the new, more business-oriented partnership with Alliances compared to the 'pay and deliver' relationship with previous donors. They see huge potential in Georgia, a country of nearly a million cattle, but challenges in recruiting and training high quality practitioners and marketing the service to farmers.

²³ These projections should be more prominent in Caucasus Genetics' marketing material. Better marketing will form a key element of their business plan for 2011.

²⁴ Fifty cows by each of the eleven practitioners would have given a total of 550 cows. 467 services represent 85% of the target total.

farm becomes operational. This local semen will cost about a third of the price of imported semen. The quality of service will be refined through continued training of the practitioners. Marketing will be targeted at existing customers and extended to potential new customers who are either unaware of the service or sceptical about its benefits. Caucasus Genetics should also consider specific marketing towards women who often spend more time with the cows than the men in the household. This year only 14% of customers were women but the percentage of women who are the chief livestock keeper is much higher.²⁵ There are clusters of farmers in the region that are, as yet, not served by the practitioner network and expanding the number of practitioners could help Caucasus Genetics reach profitability. However, this has to be balanced against the cost of bringing new practitioners up to standard to avoid damaging the brand through poor performance.

Given the progress made to date and the strategy that is in place, the expectation is that this nascent market will continue to function without Alliances' support. (Alliances may work with Caucasus Genetics in 2011 to help them deepen and broaden their service provision more rapidly but no agreement has yet been reached on the kind of assistance Alliances could supply.) The key elements are in place: a network of trained practitioners, supported by a local representative of a national company, with continuing access to equipment, inputs and training; and a focal point in the region, the ABCO 'shop window', able to market branded services. The market is already beginning to operate without reference to Alliances; for example, midway through the season Caucasus Genetics, ABCO and the practitioners began to meet on a monthly basis, unbeknownst to Alliances, to check progress and share ideas. Moreover, from the point of view of the farmers, Alliances was never part of the market because they never appeared on any marketing material or contacted any farmers directly. If Caucasus Genetics can work out how much they can charge farmers to begin increasing their revenue and turning a profit, a sustainable market will emerge. Ultimately this will incrementally improve the genetic potential of cattle in Samtskhe-Javakheti, including cattle belonging to small-scale farmers.

Reaching remote farmers

The bull replacement scheme run alongside the AI intervention is having a marginal impact on some of these more remote areas where AI is not yet available. Five improved bulls²⁶ were supplied to farmers at the same cost as a Caucasus Mountain bull. Early information²⁷ shows that 143 cows belonging to 42 households have been inseminated by an improved bull.²⁸ The offspring of these cows will only be 25% improved compared to the 50% improved calves born through artificial insemination.



This pilot scheme was only ever expected to generate minor impact. It was designed to test a different method of improved breeding given that, even on the most optimistic projections, it will take several years for AI coverage to become more comprehensive, and that some cows are too small to undertake AI. In this respect it has shown that a few farmers understand the value of an improved bull and that Caucasus Genetics can offer this

²⁵ Alliances, *Summary of the Role of Women in Farming in 7 Villages in the Samtskhe-Javakheti Region of Georgia*, December 2009, p7.

²⁶ 50% cross with Brown Swiss.

²⁷ At the time of writing the herds were still in the summer pastures and thus it was not possible to obtain accurate figures.

²⁸ About eight farmers will each have three to four cows in the same herd as one of the improved bulls.

service.²⁹ What it has not demonstrated is whether farmers are willing to pay the extra cost of an improved bull. But it will generate information to help Caucasus Genetics decide whether bull replacement, in some form, can help them access a different set of customers and raise some additional revenue.

5. Lessons and challenges

In keeping with its adherence to the principles of sustainability and facilitation, Alliances keeps a low profile in Samtskhe-Javakheti. There is a sign on one of the main streets, pointing down a side road to the office in a residential area of Akhaltsikhe but otherwise it has no visible presence in Samtskhe-Javakheti. Yet after only one full agricultural cycle of interventions, Alliances can claim credit for some positive changes in the livestock sector. Previous donors have come and gone, having created some benefits for a specific group of farmers fortunate to have been involved in a particular project. Alliances is attempting something more ambitious; instead of limiting itself to what its own staff can directly deliver to farmers in the way of training or bags of feed, Alliances is trying to change the system such that in future the market can be self-supporting, with suppliers offering attractive and appropriate products and services and farmers being able to access and pay for them.

This case study has focused on what has been achieved in terms of artificial insemination services as a way of illustrating the process by which underlying problems in the market are identified, how interventions are designed to provide sustainable solutions and how this compares to previous attempts to help small-scale farmers. Other efforts to improve the genetic stock had succeeded in producing a few better quality animals but there was no reliable source of quality AI services. If a farmer wanted to cross-breed his cows with higher milk-yielding or heavier animals he would have to seek out one of the three practitioners employed by Caucasus Genetics or hope that a donor project would appear in his area. Early indications are that the Alliances intervention is having a different effect; small-scale (and larger) farmers are paying for AI services that are more professional, coordinated and extensive. But there are challenges ahead and lessons to learn.

Facilitation

All development should prioritise sustainability. Without sustainability, the depth, breadth and equity of impact become meaningless. There are two key aspects to the M4P approach to development that help guide a project towards actions with sustainable outcomes and which Alliances practises. First, they undertake *market analysis* in order to understand why the livestock market is not working well. Second, rather than providing goods or services themselves, they seek to develop existing services. In M4P terms this is known as *facilitation*: instead of development agencies or practitioners directly doing what they think needs to be done they help an organisation or individual(s) that belong in the market to change what they are doing. Both of these techniques serve the purpose of *sustainability*: understanding the underlying problem means causes can be addressed instead of symptoms; and helping others provide a good or service means development practitioners can leave without the good or service vanishing with them.

Market analysis of AI services was relatively straightforward. Finding a suitable partner can be the most difficult part of facilitation, especially in a weak market where there are few, if any, market players. Caucasus Genetics were the only existing organisation providing anything in the way of AI services and fortunately, with some skilful persuasion on Alliances' part, they were ready to engage in the development of a new commercial business model for AI.

²⁹ In future Caucasus Genetics could sell bulls from their own stud farm as 50% of the cattle born on the farm will be males.

Nevertheless, the relationship is not straightforward. While Caucasus Genetics are keen to put their business on a more sustainable footing, as with any business deal there were negotiations on what both parties would do and pay for. Caucasus Genetics are used to projects paying all their costs so Alliances had to persuade the company that their contribution had to be at least 35% in the first grant agreement. To achieve sustainability Alliances ensures that existing market players take on roles necessary to proper functioning of an AI services market. So, for example, Caucasus Genetics sources and pays for inputs like semen and nitrogen and ABCO coordinates Caucasus Genetics and the AI practitioners as well as marketing the service. Alliances tries to restrict its activities to steering market players in new productive directions. It did provide a substantial amount of business and marketing advice, which in future should be an internal function of Caucasus Genetics or provided by a market player. But the intervention has helped Caucasus Genetics sharpen its own commercial insight and judgement and increase its profits so it can pay for external services; Caucasus Genetics are already planning to hire a marketing consultancy.

The bull replacement scheme highlights some of the challenges of facilitation. Facilitation requires that the project and the partner share an interest in undertaking a certain strategy or activity. They will almost certainly have different motives. In this case Alliances wanted to help poor farmers and Caucasus Genetics wanted to turn a profit. Thus, for different reasons, developing the market for AI services suits both parties. It was less straightforward in the case of the bull replacement scheme. Alliances wanted to test other approaches to improving breeding practices to extend access to farmers either out of reach of an AI practitioner or with cows too small for AI. While in the long term Caucasus Genetics would also be interested providing other services to customers, their priority was developing their AI service delivery. The point is that the scheme was a higher priority for Alliances than Caucasus Genetics which meant they had to pay nearly all the costs of the bull replacement scheme to persuade Caucasus Genetics to participate in it.

Entrepreneurship

But this is not an example of renegeing on M4P principles when the going gets tough. Cost-sharing, paying a percentage of a partner's costs, is done to mitigate risk and encourage them to perform a new role or undertake a novel activity. It is not done simply to ensure that something gets done. In this respect it is different from a subsidy and is allocated for a specific time for a specific purpose. The partner also pays a percentage (in cash or in kind) to demonstrate their commitment to the role or activity. Alliances chose to pay such a large proportion of the bull replacement scheme to test the practicalities and impact of such a scheme.³⁰ It was done on a very small scale; only five improved bulls were installed in herds. This kind of experimentation is crucial to M4P. While market analysis can help a project be relatively confident about the underlying causes of market weaknesses there is rarely only one solution for those problems. As with business entrepreneurs, M4P projects must start with their best guess but be prepared to adapt, discard and reinvent their interventions to achieve their goals.

The right staff

Most of Alliances' staff have worked for other development projects in Georgia but none of them have previously worked on an M4P project as the approach is new to the country. M4P is also new to Mercy Corps: although they have incorporated elements of market development into other projects Alliances is the first wholly M4P project Mercy Corps has implemented anywhere in the world. Therefore the facilitation mode of working has not come easily.

³⁰ As a pilot project the bull replacement scheme was a sound investment working out at 42 GEL or USD 23.77 per cow inseminated.

The expatriate project manager had formal training after the inception phase and the Georgian staff had an introductory session on M4P. But it was largely through experience that they have begun to understand what facilitation means in practice. The intervention in the AI services market was one of the first to get started and has advanced relatively quickly, thus providing staff with positive firsthand experience of facilitation. In particular it has showed them that fruitful interventions are designed in collaboration with partners rather than by paying an organisation to implement a plan entirely designed by the donor. Some members of staff wanted to try direct provision of AI (the project had one technical expert able to conduct AI) but eventually got involved with the negotiation of the grant agreements with Caucasus Genetics. The results of the application of M4P principles have convinced staff of the merits of following this approach. But the delay during the learning process highlights the importance of: recruiting people with the right skills for this type of development, particularly business sense, innovative thinking and negotiation; making provision for training staff, and; building organisational capacity to support projects.

The way ahead

With the proviso that it is too early to gauge the quality of Caucasus Genetics' AI services, the conditions are now in place for the growth of a sustainable market in AI services in Samtskhe-Javakheti. Alliances' careful market analysis and facilitation of Caucasus Genetics to adapt their business model has stimulated this change from patchy, free services or low quality paid-for services to a more extensive, professional service. The project remains vulnerable to the risk that new donors or the government will offer free or subsidised services that will undermine the fledgling commercial market. To strengthen Caucasus Genetics' offer against this possibility a number of steps are planned:

- maintaining the quality of its service through proper training of practitioners and extending the network;
- marketing its services more widely to recruit more customers, specifically highlighting the benefits in comparison to the costs of the service;
- reducing the cost of the service through production of local semen and lowering transaction costs;
- evaluating conception rates and feedback from customers and practitioners in order to set targets for the next agricultural season; and
- sharpening the incentives to take up AI through progress on other interventions.

6. Annex A – References

Alliances, *Annual Plan 2010*, March 2010

Alliances, *Biannual Report: 1st June – 31st December 2009*, February 2010

Alliances, *Biannual Report: 1st January – 30th June 2010*, July 2010

Alliances, *Inception Phase Overview*, June 2009

Alliances, *Intervention Plan: Improving Artificial Insemination Services*, September 2010

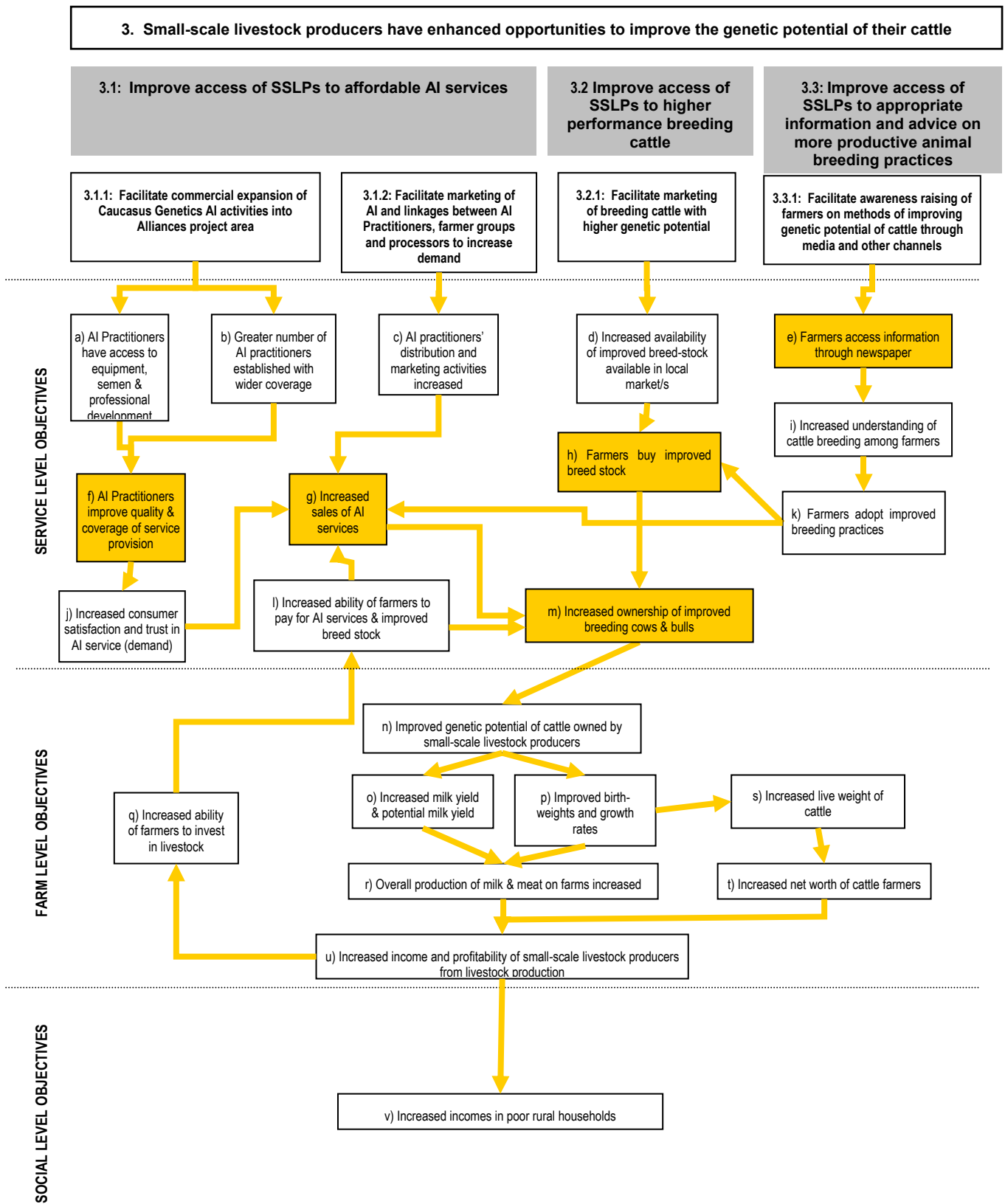
Alliances, *Livestock Sub-Sector Survey of Three Municipalities of Samtskhe-Javakheti*, March 2009

Alliances, *Full Proposal*, April 2009

Alliances, *Summary of the Role of Women in Farming in 7 Villages in the Samtskhe-Javakheti Region of Georgia*, December 2009

www.oanda.com/currency/historical-rates

7. Annex B – Breeding services intervention logic



8. Annex C – An introduction to M4P

M4P is an approach to development that sees the poor as existing within a system (or systems) and considers their poverty a consequence of problems within the system. Hence the M4P approach to development is to try to fix the system that is failing the poor. Put another way, M4P is an approach to developing market systems so that they function more effectively, sustainably and beneficially for poor people, offering them the opportunity to improve their lives.

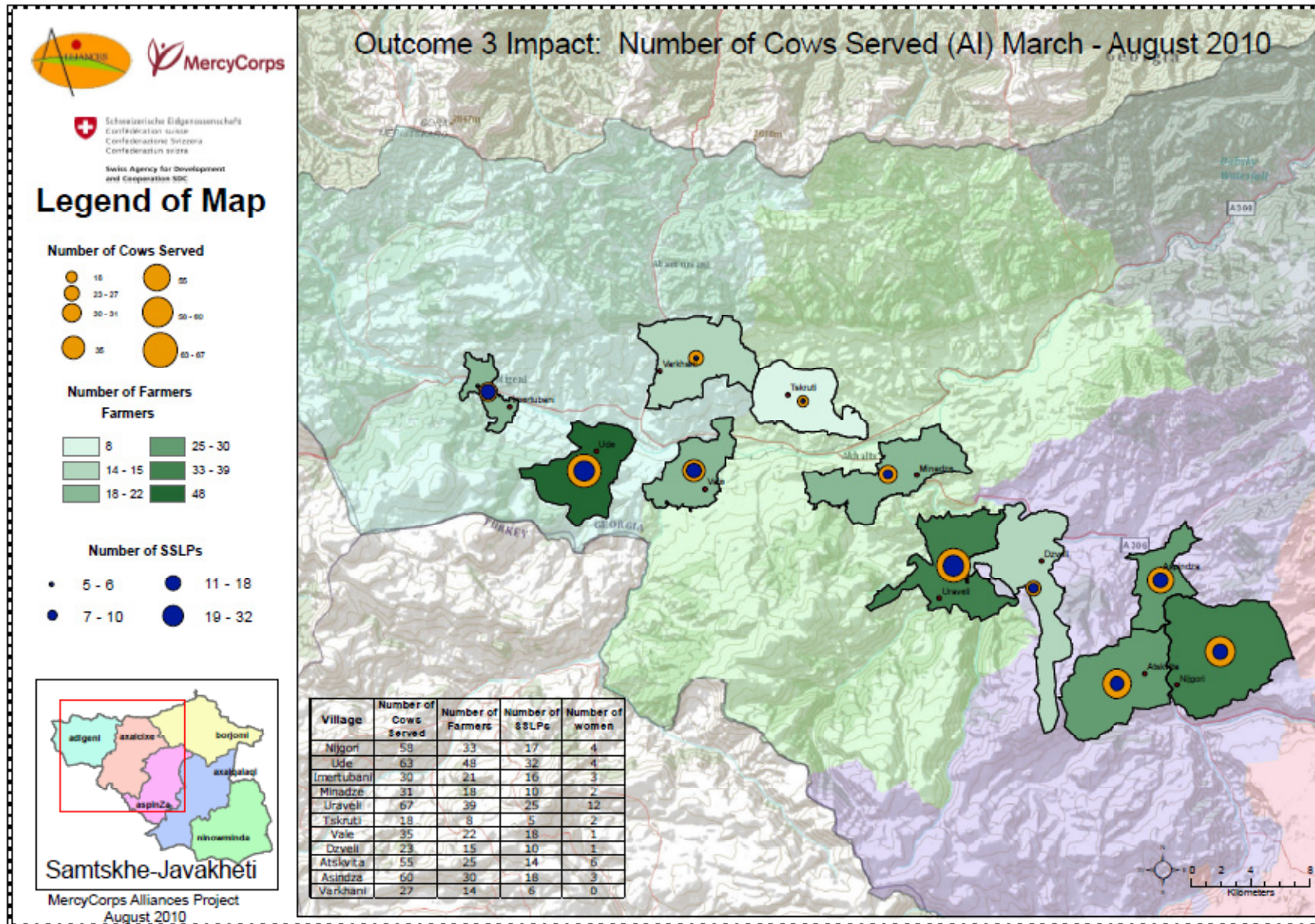
It is defined by a number of characteristics:

- It is an approach – M4P provides guidance not only on understanding the poor in relation to market systems (analysis) but also on how to bring about effective change (action). Analysis should identify the underlying constraints within market systems that impinge on the poor and actions should address the constraints.
- It focuses on market systems – M4P focuses on developing market systems and particularly the different market functions and players that constitute these systems. M4P considers market systems to be multi-functional and multi-player in nature and divisible into three parts:
 - the core – where providers and consumers exchange goods/services;
 - the rules – formal or informal rules which shape behaviour; and
 - the supporting functions – such as information, logistics, marketing and a host of others that support the core exchange.
- Its prime concern is sustainability – sustainability is defined as the continuation of benefits e.g. extended access, better services after the end of a development project. To achieve it, M4P considers not just the existing alignment of market system functions and players but how they can work more effectively in the future, based on the incentives and capacities of players to perform different roles.
- It advocates a facilitating role – M4P requires agencies to play a facilitating role, that is, rather than performing functions within the market system and becoming an internal player, they should seek to catalyse others. This supports sustainability because agencies can leave and other players will continue to provide the access or other goods/services benefitting the poor.
- It aspires to large-scale change – by addressing underlying causes (rather than symptoms) of weak performance, M4P aims to unleash large-scale change. Interventions may be small themselves but they strive to leverage the actions of market players to bring about broader change.

In contrast to conventional approaches to development in which agencies tend to ask, “What problems do the poor have and how can I solve them?” M4P pushes agencies to ask, “Why isn’t the system itself providing solutions and how can I address the constraints that are preventing it from doing so?”

For more information see <http://www.springfieldcentre.com/papers.php>.

9. Annex D – Map of number of cows served by AI



10. Annex E - Number of cows served by bull replacement scheme (and AI)

