

Impact of Kamayoq (Community-Based Extensionists) in Canchis Province, Cusco Region, Peru

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Maria Huaman Quispe, Pampa Ccalasaya Community, Trained as Kamayoq in 2003. Specialist in Production of Natural Medicines

I have improved my knowledge whereby I share it with my children. Previously I was a silent woman, I feared expressing myself and trembled with fear. Now I have a radio programme in which I spread the word on the work of the Kamayoq and on technological advances.

Author: Stuart Coupe

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Introduction

Practical Action's work on food and agriculture is principally focused on working with farming (agriculture, fisheries and livestock) communities in remote and marginal areas. The nature of those marginal areas varies from country to country, e.g. arid lands in Africa, flood plains in Bangladesh. Producers face multiple challenges including low levels of organisation, insecure access to natural resources, poor market integration, poor access to productive technologies, challenging physical environments, insecurity and climatic uncertainty.

Major international agencies such as DFID and the World Bank have long based their policies on the view that agriculture is not a viable livelihood option in these areas and that investment in agriculture should go to high potential agricultural areas from where the economic benefits including employment will spill over to marginal areas. Practical Action is challenging this view by showing that production in areas that are currently considered marginal can be dramatically improved. In these areas the vulnerability of remote and marginal communities can be reduced and populations made more food secure and self-reliant. This can be achieved through holistic capacity building in the following five areas:

1. **Access to appropriate skills and technologies** for more sustainable and diversified production.
2. **Empowerment of communities** to determine their own future as well as to access and influence institutions and decision making process.
3. **Strengthening access to, and control over, natural resources** including land, water, forests and genetic resources.
4. **Reducing vulnerability to disasters, both short and long term, including those caused by climate change** through strengthening livelihoods, improved hazard analysis and mitigation, disaster preparedness, and adaptation to climate change.
5. **Equitable access to food and labour markets** through strengthening production and food processing for sale in order to obtain cash income.

One area in which we believe that Practical Action has had particular success over the years toward reaching these objectives has been in the training of **community-based extensionists** to provide ongoing technical support services in the areas of agriculture, fisheries and livestock.

Agricultural Extension – The Global Situation.

Recent developments in agricultural policies have re-emphasised the importance of extension services. However, models of extension based on government services or private agro-dealer and service providers are not sufficient to meet the needs of farmers in less favoured areas. This is due to a number of factors including the high transaction costs in reaching remote areas; the need for localised crop and livestock management solutions suited to tough environmental conditions, which are often not well understood by extension agents trained for work in high potential areas; and the challenges of finding professional extension specialists willing to live and work in remote, and sometimes insecure, areas.

Extension systems in developing countries have faced a common set of problems:

- Low purchasing power of farmers plus high transaction costs in reaching remote areas often make private provision unprofitable

- High costs and difficulties in finding professional officers (vets, extension specialists) to live and work in remote areas which may also be insecure
- Government budgets to extension are very often the target for cuts as the impacts are not as visible (as compared to infrastructure investment for example). Often, whilst staff salaries are maintained, operational costs are cut, so staff are confined to their offices.
- Requirements for localised solutions in crop and livestock management to meet tough environmental conditions, so that regional recommendations may not be effective
- Whilst agricultural costs are highly dependent on the broader policy environment, advice from extension agents is not adjusted to reflect these changing costs which farmers are facing, e.g. reduction or withdrawal of input subsidies.
- The costs and lack of incentives of reaching large numbers of smallholder farmers with diversified farming systems leads to specialisation by extension agents on larger, better resourced farmers. Potential for impacts at scale and diffusion of innovations is thereby reduced.

Low quality, outdated or repetitive advice to farmers is combined with top-down and unaccountable delivery mechanisms. When conventional public extension services did manage to reach marginalised farmers their advice exposed farmers to risk because they were operating according to a fixed recipe of recommended measures for mono-cropping, fertiliser use and irrigation, which were unsuited to particular agro-ecological contexts and/or beyond the means of farmers to implement.

The Training and Visit reform of public extension systems promoted by World Bank was funded by donors in 50 countries between 1975 and 1998. It was aimed at upgrading the technical content of field extension activities, while making agents' activities more predictable - and thus more accessible - to farmers. According to Anderson et al (2006) the "T and V" design improved the efficiency of extension workers in terms of quantity, but not quality. There was no appreciation of the political ramifications of high recurrent costs: more technical experts, more vehicles, more local offices. Once donor funding phased out, the much more limited domestic budgets made the model unworkable and it collapsed rapidly in the late 1990s.

Raikes (2000) argued that when conventional public extension services did manage reach marginal farming areas and groups they did they did more harm than good, because they were operating according to a fixed recipe of recommended measures which frequently failed to ensure that yield increase covers the cost of fertiliser, focused on specific activities in producing single crops, whilst the diversified activities of smallholder farmers pre-empt such a narrow focus – resources or labour time are not available for such specialisation and was based on research that exaggerates benefits from innovations, by, for example, overlooking research results from years with poor rainfall, assuming the availability of subsidised fertilizer and omitting labour costs.

Farmers have proven themselves both able and willing to pay for services, if they see a clear value in the services and are in control of the payment schedules (Neuchatel, 2002). Willingness to pay is greater for tangible services particularly relating to cash crops (e.g. seed or agrochemical inputs) which have a more immediate financial return, rather than less tangible husbandry or management skills, or information relating to environmental services with potentially longer term cost saving implications (Christoplos and Farrington 2004). Thus there is a tendency for private for-profit extension, like the public services that preceded them, to focus on commercial crop producers. They also tend towards those in well off and easily accessible areas as delivery to more remote areas is less profitable. "The private sector will respond to profit motives and leave behind the poor and critical public interest services" (Alex et al 2004).

Practical Action Approach to Community Based Extension.

The idea of giving a specialised and intensive technical training to 1 or 2 people in a community was originally a pragmatic approach to project implementation in a context where Practical Action had a large number of communities to cover over a wide geographical area, with a small number of staff. It was then possible to have the village specialists as interlocutors and promoters of a variety of technologies, helping to turn project implementation into a continuous process with occasional support and review from the NGO professionals. From there, the potential to develop these intermediaries as independent, self-deploying service providers on a long term basis was soon realised. At that point systematic training of community-based extensionists began.

This training had some basic characteristics in common across the different regions and continents where Practical Action was working. Training was designed reflecting the livelihoods base of the local communities to be served: in Kenya pastoralist zones the training concentrated on livestock whilst in Bangladesh there were separate trainings for fisheries, agriculture and livestock. Each community was requested to put forward candidates against a list of agreed criteria and these were then discussed openly with Practical Action, before a consensus was reached on the best individual or individuals to go forward. The training itself was organised with the participation of relevant district level government staff, whose fees were paid for from project budgets. The curriculum was designed to reflect the educational level of the candidates, many of whom only had a few years of primary education. A wide range of cultural and linguistic barriers also were taken into account in the delivery of the training. In crop based agriculture, the training reflected the alternative paradigm of Practical Action in working with locally available resources rather than high dependence on external inputs. In the case of veterinary training the ministries tended to demand more control of the training schedule and apply strict limitations on the training, to prevent the trainees from encroaching onto the professional terrain of government/private vets.

The training offered by Practical Action to extensionists has been more comprehensive than the conventional NGO training offered to farmers. Its duration was between 15 and 30 days, with follow up support and opportunities for a diverse range of exposure visits to see technologies and techniques in practice. The certificate issued to the newly trained extensionists was usually signed by a senior district official and a senior Practical Action staff member. However, certificates issued by Practical Action and do not have any legal standing or formal recognition from relevant ministries.

The International study

For the Practical Action survey on the sustainability and impact of community based extension services, a questionnaire was developed which looked into the same issues across four countries, Bangladesh, Peru, Sudan and Kenya, and focussed on some specific themes of interest:

Education: does the educational level of the community based extensionists correlate with later relative success in practice.

Training: the original motivation of the individual for putting themselves forward for the training, the length and format of the training, most useful and least useful topics, other training subsequently received, types of equipment and inputs donated to them immediately after training.

Coverage: how the coverage area of the service providers has spread out from the original zones and target beneficiaries of Practical Action Projects, and also to see the different models of service provision.

Technical Aspects: the level of demand for the different types of skills, expertise and services offered by extensionist, and new and innovative techniques and approaches pioneered by individual extensionists

Earning/Payment: what parts of the service are voluntary, which attract payments/stipends from NGOs or other institutions, and which aspects have been commercialised; type of payments received; and approach to those who cannot pay

Linkages: linkages to other extensionists, to government and to the private sector in terms of sourcing drugs and other supplies, and access to information and opportunities.

Sustainability/Motivation: the key challenges they face in their work, what they have done to overcome them, why they persist despite all of these challenges and their view on the qualities of a successful community extensionist.

Impact: This survey was complemented by a randomly applied household survey in the geographical areas covered by the community based-extensionists. This survey was designed to look at the impact of these extensionists in the context of the broader socio-economic trends affecting the areas.

Background and Context to the Kamayoq School

The context of free trade and globalisation has enormously influenced rural society in the southern Andes, as recent governments have orientated their agrarian policies to increase competitiveness and to demand that producers maximize their comparative advantage. The privatisation drive of the Fujimori government in the 1990s reduced government budgets and placed greater emphasis on private sector for delivery of specialised agricultural services (credit/technical assistance)

This process has reduced the presence of the state to a minimum and led to a vacuum in rural extension and poverty reduction policies in remote and deprived highland regions of Peru. State institutions are too weak to regulate markets for credit and technical assistance, resulting in the exclusion of small scale farmers from these markets that only serve export orientated agri-business.

In this situation, Practical Action pushed forward a process of improvement of capacities in small scale farming communities. This experience, the Kamayoq School, which has been running from 1996 up to the present, has been recognised by diverse institutions in the southern Andes as an innovative educational and training approach. The appellation "Kamayoq" comes from Inca times and means "specialist", it began to be used again in the 1980s by development institutions to revalorise indigenous Andean culture.

Practical Action has continued to refine the Kamayoq training programme through successive evaluations and adjustments that have allowed it to generate a model of human capital development, adjusted to the conditions and world view of small-scale farmers in the Vilcanota valley. The basic model is to provide agriculture and livestock specialist service providers from the local communities to fill the service vacuum left by the reduced presence of the state and formal private sector. By the end of 2007, approximately 200 Kamayoq had been trained, in seven groups. The school has promoted action-research, farmer-to-farmer learning and learning-by-doing; under a methodology that combines theoretical and practical aspects in the training of farmers as technological leaders and providers of technical assistance to other farming households. In this way it is expected that employment and credit markets will be stimulated within the small farm sector

Andean Production Systems

There are two production/livelihood systems into which the Kamayoq have deployed: the mixed production system and the alpaca production system.

Mixed Production System

This system is practiced in the valley floor and lower part of the mountain slopes, by communities dedicated to crop and livestock production: cereal and Andean cultivars, cattle, sheep, guinea pigs and poultry

The property structure in the Practical Action areas of intervention is characterised by a high level of sub-division. Around 60% of the producers (80,000 units) have less than 5 hectares, for the most part featuring low productivity, high unit costs and great difficulties in innovation of products, technologies or processing. This prevents the farming households from reaching decent levels of efficiency and profitability. In order to satisfy basic needs all households with less than 5 hectares are without exception involved in off-farm activities in order to complete the basic household food basket.

The stratification of social groups is as follows:

1. Surplus producers, that have more than 5 hectares, (minimum 3 hectares irrigated), 30 cattle, 150 sheep and 10 horses, whose income derives from sale of agricultural produce, principally livestock, they buy cattle and sheep for fattening, they ensure good animal health standards, and they then sell them in cattle auctions. They also work as traders of alpaca fibre and meat. They have businesses, shops, houses and vehicles in Sicuani town.
2. Subsistence farming households, with an average of 3 hectares (1 hectare irrigated), 6 cattle, 30 sheep and 3 horses, whose livelihood strategy includes off farm work. Most of their farm produce is consumed by the household. Any farm income generally comes from livestock – buying and selling, sheep fattening and butchery work.
3. Below subsistence farmers, the majority of households in the peasant communities, with an average of 2 cows, 10 sheep and 1 horse. This group dedicates most of its labour to off-farm activities to obtain basic income, using farm production and animals as a contingency reserve. They are unable to meet their basic needs from farming alone.

Groups 2 and 3 face restrictions in landholding and production which prevent them from participating in markets for goods, capital and technical assistance. Non-market relations predominate due to the following factors:

- ⇒ Weakness of farmers' organisations means that they cannot negotiate a local development agenda with the authorities and other relevant institutions.
- ⇒ Minimal access to financial resources and services to bring in investment and technology.
- ⇒ Deficient quality in post-harvest processing and organisation for commercialisation.
- ⇒ Scarce information and capacity for market opportunities.

Alpaca Production System

In the Practical Action intervention area, the communities situated on the high Andean Plateau have a large stock of alpacas (76,780) ranging over wide areas, with households

having access to technologies and management strategies adapted to the conditions. Alpacas and llamas are both herded, for production of meat and wool. The animals are attended to all the year round, and for this purpose, shepherds' cabins have been constructed in strategic locations.

The land belonging to each household varies according to altitude, above 4000m they have an average of 100 hectares of grazing land, but in lower altitudes this reduces to 15 hectares

The natural pastures lose carrying capacity in the dry season. The alpaca herders that do not have irrigated pastures suffer alpaca mortality, approximately 5% of the herd and a 10-15% miscarriage rate. These losses can force the herders to migrate in order to cover basic needs.

In terms of types of producers, there is the following stratification:

Proprietors The most wealthy have between 500 and 1000 head of alpaca. They work full time on alpaca rearing. They normally reside in the town and employ labourers and shepherds. They sell wool and hides, supplying the leather factories and wool trading companies in Arequipa. Comfortable alpaca herders, also full time, have between 300 and 800 alpacas per household. They do not live in the high plateau; their shepherds take care of the herd. They have technical knowledge and hire veterinary services. They also have income from the town: businesses and shops.

The **average producer** has an average of 200 alpacas. They work directly with their own livestock and they regularly invest by taking loans, in order to improve wool quality: buying mating animals or irrigation equipment, they are striving to improve their practices.

Finally we find the **poor alpaca herders**, with between 20 and 50 animals per household, they are part-time and also work as labourers, small traders or artisans. They work for other highland families in construction or as herders for better off producers. They normally have poor quality livestock and breeding is not well organised. They lack technical knowledge for breeding, rearing and marketing.

In percentage terms the first strata make up 5% of the population, the second 30% and the third, 65%.

Other Socio-Economic Factors

The social organisations of the Andes are the Community Management Committee and Farmers Security Groups (mainly to control rustling). Additionally the alpaca herders of Sicuani and Maragani have a producers' organisation. (SPAR-CANCHIS)

The valley floor communities have distinct characteristics from those on the high Andean Plateau. Their education levels are higher; they have more linkages with local and extra-provincial markets. They have better access to markets and services

Despite their greater land holdings, the highland alpaca herders are much poorer than the valley communities as they lack a range of services (road access, good quality education, health services, electricity and telecommunications). They have unequal exchange relations with buyers of wool and meat.

Alcoholism is a factor that cannot be underestimated as a cause of poverty; due to the cold climatic conditions, the consumption of alcohol is inevitable; 70% of the population regularly consume alcohol. Malnutrition levels in the under-5s are extremely high (88%)

Practical Action Intervention: The Kamayoq School

In relation to the broader themes of Practical Actions programme work internationally, in the programming in the Canchis province, in the rural areas around the town of Sicuani, **community empowerment** has taken on a special significance as it involves valuing indigenous culture. This has various aspects,

- ⇒ Strengthening the local organisations pertaining to the local culture: for example the Irrigation Committee and the Assembly of Community Leaders, also called the Advisory Committee.
- ⇒ Recognising and promoting local knowledge in the management of productive resources (water, soil) and local technologies in agriculture and livestock
- ⇒ Recognising and resolving conflicts relating to problems of inter-cultural communication (discrimination and prejudice against indigenous culture)

In the early 1990s, during which the Kamayoq School was being conceived, many national NGOs in Peru avoided the theme of intercultural conflict and discrimination in access to rural technical education. From the start Practical Action's motivation in establishing the School was a struggle against a centuries old approach which is oblivious to the diverse manifestations of cultural marginalisation. Today, after 15 years, there may be a greater openness in acknowledging the value of quechua culture.

The **Kamayoq School** is a virtual concept referring to an adult technical education programme and not to a physical building or premises. The first phase of the development of the Kamayoq School involved the training of a team of 7 trainers, known subsequently as "Kuraq Kamayoq" meaning "Great Kamayoq", all from Quechua speaking farming communities in the Sicuani area, and some of whom went on to become employees of Practical Action. This group of seven trained three groups of Kamayoq between 1996 and 1999 – the training was targeted to cover all aspects of the mixed production system found in the Vilcanota valley and lower slopes. The training was divided into five areas: irrigation, Andean cultivars, horticulture, livestock and agro-forestry. The training of Kamayoq faltered for 3 years due to lack of project funding and when funding resumed it was decided to move from multi-discipline to specialised, single discipline training. Some staff maintain that this was a strategic move to improve cost-effectiveness and sustainability of the Kamayoq School, whilst for others the multi-disciplinary approach remained the ideal but was compromised in order to pragmatically fit with donor opportunities. Yet it would be hard to argue for the relevance of the multidisciplinary approach for populations dedicated to the alpaca production system. Since 2005 with Practical Action has been making a conscious move to reaching out to the most marginalised and poorest communities in Canchis, so the alpaca production system has been included in the Kamayoq experience.

At the time of the study, a total of 205 Kamayoq had been trained, in the following groups:

Groups of Kamayoq trained by Practical Action between 1997 and 2007

Group	Speciality	Number of graduates
Machu Kamayoq	Multi-disciplinary	7
1st	Multi-disciplinary	16
2nd	Multi-disciplinary	29
3rd	Multi-disciplinary	45
4th	Animal Health	24
5th	Animal Health	35
6th	Alpaca Husbandry	35
7th	Native potatoes	21
TOTAL		205

In 2008 the Practical Action team analysed their experience to develop a guide on the Kamayoq School model, where the experience to date was broken up into five stages as a guide for Practical Action in other parts of Peru and Bolivia and also other institutions wishing to replicate the process (de la Torre, 2008).

Stage 1: Creation local institutional agreements on agricultural extension.

It was necessary to promote debate on the importance of extension and rural technical education by means of coordinated efforts with all the institutions present in the zone that were dedicated to the group of rural development. These were state institutions dedicated to the agrarian development, associations of producers, organizations of water users, research institutes, local universities, private companies and non-governmental organizations.

In this stage, two objectives were reached.

- a. Inter-institutional agreement: It was necessary to get an agreement between a group of institutions to push forward the development of a system of extension that responds to the particular needs of the locality.
- b. Identification of the best farming producers in the intervention area. It was necessary to identify the best producers of the region, be they individual farmers, producer associations or companies and secure their support for training of the community-based extensionists.

Stage 2: Establishment of a training institute with the support of the group of institutions identified in Stage 1

The design of was flexible and decentralized, and had a small group of professionals, the Kuraq Kamayoq (see p.9 above) that were the core facilitators. . This nucleus had a facilitating role in the process of development of capacities and curriculum. The nucleus of professionals was remunerated and had a budget for materials and activities.

Communication with the communities is via an Advisory Committee, composed of representatives of the communities that Practical Action works with. This Committee

proposes activities which require the support of Practical Action; this is followed by joint planning, consensus on priority activities and coordination of implementation, with options for corrective actions if necessary. The Committee evaluates and oversees the work of the Kamayoq and makes proposals for improvement of the training.

Stage 3: Process of capacity building of the community based extensionists.

The training of farmers as CBEs is a complex educational process that needs to be constantly and flexibly adapted to the social and cultural conditions of each locality and the institutional and natural resource context of local agricultural production. Nevertheless, beyond the particularities it is necessary to incorporate a central element, which is an inter-cultural approach to adult education. In the experience of the Kamayoq School, the process of training and capacity building is organized in the following way:

Call and selection of the candidates:

The Kuraq Kamayoq visit a group farming communities or small villages chosen with the typical productive profile of the zone, to invite them to participate in an annual training cycle. In each community or small village the assembly of community members deliberates and makes a list of the people who wish to be considered and check that they fulfil the selection criteria. The assembly endorses these candidates with the expectation of community feedback and knowledge sharing once they have been trained, but this is not made into an obligatory, enforceable requirement.

For the selection from the candidates to the School of Kamayoq, the requirements are:

- ⇒ Sex: man or woman, preferably with children.
- ⇒ Age: between 25 and 60 years.
- ⇒ Residence: to be born, raised and permanently resident in the farming community.
- ⇒ Level of knowhow: good practical knowledge of farming technologies
- ⇒ Motivation: high level of interest in the adoption of new productive technologies
- ⇒ Attitudes: community service orientation and willingness to share technical knowledge; not to having pending conflicts with the local community authorities.
- ⇒ Level of formal education: preferably completed primary.

Training methodology:

Intensive phase: these are classroom based sessions under different modalities (courses, workshops, exchanges, practicals, etc) that promote reflection on practice for new and increased knowledge. The frequency of the training sessions varies in the different groups as the school adapts to the availability of the participants.

The sessions are carried out in different rural locations to promote practice in real situations which trainees will face on a daily basis. The process begins with a planning workshop where the participants adjust the curriculum proposal designed by the Advisory Committee and Practical Action.

The average training period for a Kamayoq is 28 days, distributed over 7 to 10 months, with the exception of the seventh group that required a greater number of days and months, due to the methodology (field schools where the training followed the seasonal native potato production process) The three first modules of qualification were held in 5 course workshops simultaneously in 5 communities of origin of the participant group of Kamayoq, which meant best use of time and resources, with the remaining 12 training events developed in common workshops or exchange visits.

Extensive Phase: this phase is orientated towards stimulating the application and fine tuning of the classroom based knowledge, it consists of tasks that the participant tries out in their own homestead and fields, and once more secure of the knowledge and skills required, he she can move out into the nearby community to stimulate the service practice and then finally move further afield for supervised professional practice.

The beginner practice in the neighbourhood follows the Quechua cultural production pattern of collective knowledge and learning, where any novelty assimilated from other culture by a group member is first tried at the homestead level either on their own or in mutual labour groups (*ayni*). After evaluating the results with different adopters, any necessary adjustments are made and when there is a consensus on the value of the new technique, the practice becomes generalised and is converted into a community custom. It is characteristic of Quechua culture that there is no individual inventor of new practices: production practices are socialised and named after the district or community. So a farmer with new ideas does not instruct the others but encourages group experimentation, they do not take new ideas to other communities first, or they will be labelled “big mouth” and lose image and prestige. The innovator must maintain a humble and patient position of encouraging the new practice but without asserting its value there may need for adaptation of the practice to micro level ecological conditions. Only validation of its utility by the wider group of peers can demonstrate this.

In order to enhance the sustainability of the Kamayoq School, Practical Action has developed the following strategic actions.

Stage 4: Follow- up on Kamayoq services.

At this stage, the core facilitation group carries out follow-up by means of surveys and interviews with the rural producers that have received the Kamayoq services. In the case of the Practical Action experience, this follow-up has been carried out by a self governing Kamayoq Association.

The “Toribio Quispe Jallo” Kamayoq Association.

The Kamayoq Association is a registered legal entity with its own premises, whose membership is open to the graduates of the Kamayoq School. It strengthens the capacities of the Kamayoq as an organiser of group activities, in management and implementation of action plans and in formulation of community development proposals.

The Kamayoq Association’s functions are to:

- ⇒ channel the problems and proposals of members to appropriate institutions,
- ⇒ maintain unity
- ⇒ promote the cultural and professional identity of the Kamayoq
- ⇒ opening opportunities to Kamayoq, on an equal basis, to compete for service contracts
- ⇒ opening and providing information on market opportunities for the products from small businesses founded by Kamayoq
- ⇒ manage opportunities for further training.

Stage 5: Updating of knowledge.

Every quarter, after the 28 days of initial training, the facilitation group organises courses of short duration to update or to reinforce knowledge. The subjects chosen for these courses are defined through the visits that the facilitation group members make to the homes of the Kamayoq in communities and small villages, with the purpose of collecting opinions and recommendations.

The Kamayoq School looks to develop in its trainees, not only productive capacities, but also capacities to build relations with other successful producers, technological institutes and private livestock companies in the province of Canchis. Through this emphasis on alliances and synergies, long term close relationships have been established with SENASA (state organization responsible for animal and crop health), the Andenes research station of INIA (state institution for research on Andean cultivars) and IVITA (university institute for research on management and genetic improvement of alpacas). SENASA has certified and hired a number of Kamayoq for state financed vaccination campaigns. INIA and IVITA have provided professionals to conduct training sessions and receive groups of trainees on study visits. These organizations do not co-finance the activities of the Kamayoq School, but they fulfil the role of strategic allies and have developed a degree of synergy.

Study Methodology

Semi-structured interviews	Kamayoq questionnaire	Household questionnaire	Total	Number of communities
28	55	51	134	40

Community Extensionist and Household questionnaires which had been used in Bangladesh were translated and modified for the local context by Stuart Coupe in conjunction with staff in Lima and Sicuani. (Annex 1 and Annex 2) The study was conducted in February/March 2008 by a team led by Stuart Coupe, Yolanda Carazas and Jose Solis, who spent two days training 14 bilingual spanish/quechua university and technical college students on the standardised use of the questionnaires. The questionnaires themselves were not translated into quechua but the students made notes on how to ask the questions in quechua. Further day was spent on field testing the questionnaire, feedback and final modifications. A list of Kamayoq was obtained from the Sicuani office of Practical Action. Seven teams of two interviewers were then deployed across the 40 communities over a period of four days to visit randomly selected Kamayoq in their homes and farms for the interview. Households in the same communities were also randomly selected for questionnaire interviews on the impact of Kamayoq services. The team of enumerators conducted 51 household questionnaires, with randomly selected households but with a priority of interviewing household heads, whom were considered best placed to assess the household situation over the previous decade.

Simultaneously Yolanda Carazas and two Masters students working with Jose Solis completed a total of 28 semi structured interviews with Kamayoq, going into further qualitative detail on some of the key issues of interest. These further questions could not be contained in the questionnaire as the aim was to make the questionnaire administration last approximately 45 minutes. The semi-structured interview responses have been translated and included in this report. (Annex 3)

This study needs to take account of other recent studies of the Kamayoq in Canchis province. Practical Action Latin America commissioned Jose Solis to undertake a study specifically on the changes in the livelihoods of the Kamayoq themselves. (Annex 4) An independent researcher Timothee Dumont, also studied the Kamayoq as part of conducted a comparative study market based service delivery models (Annex 5) In the concluding section the synergies and overlap in the findings are reviewed.

Kamayoq Survey

First, an aggregate view is presented which combines all of the Kamayoq with their wide differences in speciality. These speciality groups are then analysed separately. The purpose of the aggregate view is to note the most popular service areas, the extent to which they have been commercialised, and to allow for the possibility that Kamayoq trained in one area may nevertheless develop services in other areas.

As well as analysing the sample as a whole, it was possible to look at trends and tendencies according to the different specialities of Kamayoq. This information was organised into tables, see Annex 6. In the first three multi-disciplinary groups, the Kamayoq were trained on 5 themes: irrigation, livestock, horticulture, agro-forestry, Andean cultivars, to gain a multiplier effect from the combination of improvements on the farm, converting the Kamayoq into a technological leader serving as an example to other families.

Aggregate Results

Education

In the international Kamayoq survey there were 55 respondents with 45 men and 10 women surveyed: 36.2% had reached primary education but not beyond, nevertheless only 2 persons mentioned that they were not in the habit of reading and writing. This shows that the educational entry requirements for Kamayoq training, a minimum of completed primary education, have been strictly applied.

Years education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	21	36.2	36.2	36.2
	Secondary	33	56.9	56.9	93.1
	Higher	4	6.9	6.9	100.0
	Total	58	100.0	100.0	

Training

Only 7% of Kamayoq mentioned **income** as their initial motivation for the training, whereas 72% mentioned desire for **knowledge** and 45% cited **obligation** to the community. This may be a reflection of the way in which the opportunity to become a Kamayoq is presented to communities, income earning is not specifically promoted and there is a social pressure for them to serve the community voluntarily rather than provide a paid service. The support received after training was relatively low compared to other countries in the study. Only 27% received any equipment. Almost all the Kamayoq, 91.5%, had participated in an exposure visit which was uniformly regarded as a very useful experience.

In terms of training other Kamayoq, 22% have a formal role in such training, and a further 32% carry out informal training in their communities.

Six of the 55 respondents have never worked as Kamayoq despite being trained, in 2 cases it was because they were too busy carrying out other leadership roles in the community, in the remainder of cases the reason is lack of confidence: they were discouraged by a negative initial response from their communities.

Coverage

Of the 55 respondents, 45 are still working. This definition of working does not just relates to the commercialised provision of technical services, it includes those who informally advise a network of family and neighbours.

Besides those who never started working, those additional persons that have completely “dropped out” gave the following reasons:

- ⇒ *change of career to carpentry and building*
- ⇒ *too busy with own farming activities*
- ⇒ *strong competition from other Kamayoq*
- ⇒ *no interest from community in potatoes advice*
- ⇒ *they don't pay*

For the ten persons that are not exercising any Kamayoq functions, the most frequently cited motivator for them to start working or resume was more training, leading to a formal certification. There was also a frequent request from active Kamayoq that the Practical Action certificate should be upgraded through recognition from state institutions.

Examples from Semi-Structured interviews (Annex 3):

There should be an official certificate – ITDG should have an agreement with UNSAAC (Universidad Nacional de San Antonio Abad de Cusco) Zoology Faculty or the Education Ministry so that it is nationally recognised. This gives greater credibility and guarantee.
Eulogio Barrientos Valencia, Condor Sencca

There is no benefit of the certificate as it is only issued by ITDG, it would have greater validity if it were approved by a university, a technical institute or SENASA. If this were the situation then communities and institutions would accept me more easily and I would have more income. Mario Lopez Sonco, Acco Acco Phallo

Half of the Kamayoq serve only in their own communities whilst the other half cover between 3 and 8 communities. One Kamayoq said that his/her furthest client was 85km away, whilst at the other extreme one said that the furthest client was 100 metres away! The average distance to the furthest client is 15km.

The most common modality of service provision is a specific request from a farmer (52%). 43% mention an emergency call out. 33% organise and plan a regular route around the villages. Only 10% give consultations over the phone. The vast majority of the Kamayoq work is done on foot (64%) and 41% travel sometimes by horse, with the only other significant mode of transport being the bicycle (26%).

Each Kamayoq has a number of ways of organising their service delivery as demonstrated by the following figures: 32% have regular routes around the villages, 17% give services whilst selling inputs, and 51% are available to be called out by individual

farmers. 43% say they are on standby for emergency call outs. Only 10% have a phone consultation service. To reach the clients, 64% travel on foot. The other main means mentioned are horse 41% and bicycle by 26% of the sample.

Technical Aspects

Livestock services are the overwhelming source of Kamayoq income derived from services in the community. Vaccinations and administration of drugs are the services for which the greatest numbers of Kamayoq charge. For the few Kamayoq who say that they do not charge, this means that they do not provide systematic services but administer donated drugs or administer drugs that the farmers have bought for themselves. Other lesser but still important income sources include small operations, feeding supplements and provision of supply of breeding stock. Only 14-17% of Kamayoq who give livestock advisory services have succeeded in commercialising this service, the rest provide it as a free advisory service when earning from administration of curative drugs and vaccines.

When it comes to crop advisory services there are fewer Kamayoq that provide these types service: an average of 25 Kamayoq working across the crop service areas compared to an average of 39 across the livestock advisory areas, and very few have been charging for crop related advice (5% across all service areas)

There is significant Kamayoq participation in the provision of agricultural services, inputs and supplies. Only two areas of provision with relatively low participation, 13 in seed supply, 12 in pesticide supply, and 9 in fertiliser supply, have a high proportion of Kamayoq making some income. High numbers of Kamayoq are willing to give free advice to farmers on price and market trends for particular products.

Service	Number of Kamayoq providing the service	Number of Kamayoq that charge for the service
Diagnosis	47	7
Pasture management	35	6
Fodder advice	31	5
Breeding advice	42	6
Vaccination	46	30
Administration of drugs	40	27
Operations	28	14
Calving	37	15
Feed supplements	32	19
Insemination	4	1
Supply of breeding stock	24	12
Loan of breeding stock	26	5
Diagnosis of crop pests and diseases	28	6
Advice on soil erosion	17	1
Ploughing and Land Preparation	27	2
IPM advice	29	6
Soil fertility	21	1
Soil analysis	18	0
Composting advice	30	2
Fertiliser advice	25	1
Terracing, bunding and other water	15	4

conservation.		
Weed Management	17	0
Agro-forestry advices	22	1
Recommendations on seed varieties	27	0
Pesticide supply	12	11
Sapling supply	6	2
Irrigation management	20	4
Seed selection and multiplication	21	7
Seed priming	27	5
Seed supply	13	7
Fertiliser Supply	9	6
Seed storage	25	5
Crop storage	21	2
Agro processing	9	1
Prices	38	1
Demand for particular crops/products	41	1
Packaging	10	1

Linkages

When Kamayoq are looking for information on new trends and tendencies relating to their work, the most important information source is agro-dealer shops, cited by 24 Kamayoq. This suggests that the store keepers are knowledgeable and trusted in relation to new veterinary and agricultural products. The next most important information source being the Municipality, mentioned by 15. Other potential sources of information mentioned are cited by one or two Kamayoq.

With respect to their source of inputs and supplies, 39 obtain inputs from agro-dealer shops, with 21 sometimes experiencing difficulties obtaining the supplies that they need from this source. Four obtain these supplies on credit from the shop, the rest pay in cash.

- ⇒ 3 Kamayoq obtain inputs from other Kamayoq
- ⇒ 1 obtains inputs from a government source
- ⇒ 15 obtain inputs from an NGO source (Practical Action maintains a stock of veterinary medicines) with 11 say they sometimes or always experience difficulties with this source. Twelve obtain the NGO inputs on credit and 3 pay cash.
- ⇒ 6 obtain inputs direct from company distributors

As far as being hired by organisations is concerned, there were 49 valid responses in which 63% affirmed that they had been hired, most commonly on paid short term contracts with NGOs and municipalities.

Earnings/Payment.

Income figures are notoriously difficult to interpret and the range of figures quoted is so wide that some of the respondents may have mentioned total turnover whilst others mentioned net profit. Furthermore 18 of the 55 interviewees told the enumerators that they did not feel comfortable to share such details. The average income in busy months January and February is 110 *soles*. Emphasising the seasonal nature of Kamayoq work: in January and February 37 Kamayoq report income, whereas in September only 14

Kamayoq are reporting income. In a busy month like January where 37 Kamayoq have income, the range of income reported is very wide with 10 Kamayoq earning less than 50 soles but 7 earning more than 250 soles.

Typical annual cycle, busy months

Month	No. Busy during the month
Jan	35
Feb	30
Mar	21
Apr	12
May	13
Jun	15
Jul	7
Aug	4
Sept	3
Oct	14
Nov	19
Dec	12

Income in January

Amount (soles)	Number
Less than 20 soles	10
20-50	10
50-100	7
100-250	3
More than 250 soles	7

Whilst most Kamayoq receive cash payments from their clients, a significant minority (35%) work principally with non cash payments, either reciprocal labour or payments in kind.

When farmers cannot pay the standard response from the Kamayoq is sympathetic. There is social pressure from the community assembly for the Kamayoq to reach out to the poorer families, a common solution is for a farmer to give produce or work on the Kamayoq's field for an agreed number of days.

I always provide a service, otherwise the community members will criticise me in the assembly. Nevertheless, if a community member doesn't pay me for the second or third time, I remind him and if he is conscientious – if he doesn't have money he will pay me in produce – for example barley for bran. Juan Huacani Llalawi Marangani (Annex 3)

Relations between Kamayoq and their home communities are very complex. There is a transition in values from the collectivism of quechua culture to individualism of global culture, which is often fraught with tensions and misunderstandings. Individual success is more acceptable than in the past but still causes suspicion. It is very much down to the individual Kamayoq whether they accept community suspicions or sanctions over their activities, or decide to develop their services as an outsider in another community.

Mostly I have clients in other communities. In my community they don't accept our services due to lack of trust, they think they already know everything. Julian Ccala Corahua , SunccoChuma

It has proven possible for many Kamayoq to overcome the initial mistrust of their motives and capacities and to gradually establish themselves as a service provider in their own community, whose individual economic success is no longer been seen to have been derived as a result of favouritism from Practical Action, nor selfish behaviour.

At the start they didn't accept me as a Kamayoq they thought you didn't really know, with the passing of the years they started to request my service, they saw the results I had got and now I do services every morning in the community. Victoriano Huerman Huilla Puma Orqa

I always try to attend my clients and for that reason I have attended animals with strange diseases. For example treatment for material/mucus in the lungs. I have succeeded in doing an adequate treatment based on natural medicines. I always give my service, with the interested person I always try to coordinate and that they give me an exact time to go and offer the service. If I turned them down they would not come to me any more and I would lose face in the community. Fernando Mesa Charca Puma Orqa

In alpaca herding communities the poorest section of the community, the shepherds with small herds who make a living herding the animals of others, have little incentive to involve themselves in improved technical management. It is reported by diverse institutions working with alpaca communities that the poor shepherd households are less willing to invest their time and resources in training or introduce changes based upon advice from extension agents. This can explain the frustrations expressed by some Kamayoq who have been unable to establish interest in their advice, even if it is freely offered.

In the assembly I commented to my fellow community members about genetics. They didn't pay any attention to me and for that reason I only work with my own alpacas. They think that I am taking advantage of the community somehow and they don't know how to value me even though I have been president of the livestock committee where I have left quality animals registered. For all of this I lost the will to do the genetic improvement service. Epifanio Condori Huaracha Hanco Hocca Marangani

Sustainability/Motivation

Approximately 20% of Kamayoq say that they are full time, say that the role of Kamayoq is their 40% main but not only means of livelihood, whereas for 40% it is a secondary activity

The demand for Kamayoq services is gradually expanding, with 15 Kamayoq saying they had more clients than in 2003 and 9 saying they had less, with the rest saying that demand was stable. This is not a the situation in the other contexts we studied, Sudan, Kenya and Bangladesh where the Practical Action trained extensionists were moving into an almost complete service vacuum. There are many testimonies regarding competition with other service providers, with some Kamayoq becoming discouraged but others rising above the challenge and superseding the competitors in attracting a client base. (Excepts from Semi-Structured interviews, Annex 3)

At the start I didn't have clients, little by little it started going up after further training and refresher courses. Currently the number is the same, since 2006. The agroveterinary

agents compete with us to sell their products. The agroveterinary agents spread negative word about us, they try to question our technical assistance work, that limits our work.

Albino Cahuaya Quispe: Cuchuma

*I support and provide services for my friends and relatives. Those that have money request the services of specialist technicians who are more qualified. Whereas us Kamayoq are not trusted so much. In simple and practical things they do request our service. Friends and relatives are informed about my work and know that I am trained for these tasks. There are technician graduates from the technical college, there are vets from Puno. We don't overlap with them, they appear when they are called and then they go, moreover they are egotistical and don't know how to explain anything. It does affect me, the farmers give importance to these professionals and not to us and they only request simple things from us..*Emilia Apeza Launa Chetuyoc

There are other service providers that come from Sicuani and San Pedro, who offer their services at high prices. For example they charge 6 sols per dose whilst I only charge what the farmer can afford, around 3.5 sols per dose depending on the quality of the medicine. They are a variety of technicians and promoters. They don't affect me at all- they are professionals that know their profession whilst I am trained to do lesser activities like vaccines, dosages and feeding. Fernando Mesa Charca Puma Orqa

Kamayoq were asked to describe any disadvantages of their role, 28 comments were recorded. Envy from other community members was mentioned 5 times. A common difficulty mentioned was insufficient working capital to obtain equipment and medicines, this was mentioned 9 times. One Kamayoq mentioned that dogs are a major problem!

Results broken down by Kamayoq Speciality.

Group	Speciality	Number	% of the sample
1st-3rd	Multi-disciplinary	12	22
4th-5th	Animal Health	18	33
6th	Alpaca Husbandry	16	29
7th	Native potatoes	9	16
TOTAL		55	

Trends and tendencies amongst sample of 12 Multidisciplinary Kamayoq trained between 1996 and 1999. See Annex 6, Table 1

Three have abandoned the role completely, citing insufficient income. Women are less active than men, having around a quarter of the number of local clients and a quarter of the income. The main source of income is small operations and mark-ups on the veterinary medicines administered. All the active Kamayoq maintain a free crop advisory service along with their livestock services. Competition from technical graduates and other more recently trained Kamayoq has led Kamayoq from this group to seek work on contract in distant communities. They report more social acceptance in these communities than their own.

From the multi-disciplinary Kamayoq of the first three groups, approximately 10 irrigation specialists emerged.(Interview, Washington Chani) They have been identified by institutions to conduct training and implement irrigation systems in other parts of Peru, but not in their own communities. In their own communities there are many examples of Kamayoq assuming the post of director of irrigation, one of the most important office bearers at the community level. It is extremely important that the director of irrigation

commands wide respect given the intense suspicions of favouritism in water distribution that arises in August, September and October in the Vilcanota valley. The effective exercise of the post in a way which minimised conflict brings with it authority, pride and prestige to the community and gives the Kamayoq a platform for relations and networking in the province, region and beyond.

Trends and tendencies amongst sample of 18 Kamayoq trained on livestock services in 2003-4. (See Annex 6, Table 2)

One is completely inactive, 1 only works on contract, and 1 “only gives a service when asked”. The other 15 highly are successful and active Kamayoq, including most of the active leaders of the Kamayoq Association. The 3 women in this group have equivalent income and client base to men. Five have commercialised natural medicines. Combination of direct animal health services provided to client groups and contract work.

Despite not having been given Kamayoq training on horticulture/crops, the active Kamayoq offers a wide range of paid and voluntary services in this area, e.g. they are able to charge for their services in field layout and preparation. Establishing credibility as a livestock specialist Kamayoq gives them the credibility to give advice in all other aspects of production.

It is important to note that as well as receiving the full Kamayoq training, many will have participated in other Practical Action activities, which were running at the time, especially Participatory Technology Development, which promoted farmer experimentation and innovation. This is the explanation for the fact that a proportion of Kamayoq trained on animal health services are also confident to offer advice on crops and horticulture

Were these the “better off” low land farmers? Maybe worth emphasising the differences in selection / location of these different groups i.e. the shift towards more marginal farmers

Sample of 16 Alpaca Specialists trained in 2005 (Annex 6 Table 3)

This group is 100% male, (a large group of women not included in this study received this training in 2008). Considerable emphasis is placed on community service and humanitarian work. Almost all are developing a business/entrepreneurial approach to their role, trading of genetically improved animals, fibre bulking etc. Other options for expanding their role include working on contract or service visits to very remote communities. Due to sparse population, and presence of other Kamayoq, client base is too small for Kamayoq to develop a viable livelihood from routine animal health provision in their locality. Typical income from animal health service to other community members is 30 sols a month.

Example:

I only work in my neighbourhood as there are 3 Kamayoq in Toxacotta. I make 30 sols profit per months. I have become a specialist on processing of alpaca meat – charqui. David Choqueluque, Toxacotta community

The Kamayoq in highland areas have relatively few clients but with very large numbers of animals to attend, each family with an average of 100 animals. It is not like the valley areas where 3 or 4 cattle per household are the norm. Nevertheless the viability of the paravet role as a substantial livelihood option in the alpaca zone is limited. This study of service patterns did not pick up the fact, which was noted in the study by Solis (below) that many highland Kamayoq have become models of best practice in genetic improvement, owners of animals worth many thousands of dollars, and receiving visits

from all over the Andes. They organise the genetic improvement programmes introduced and supported by Practical Action. There is a committee that organises the revolving system for improved animals. These Kamayoq ensure good coverage of veterinary services but do not look to animal health services as their main line of work/income.

Sample of 9 Native Potato specialists Trained 2006/7 (Annex 6 Table 4)

The native potatoes discipline relates to specific communities at intermediate altitudes. The Kamayoq programme in this case is about the new concept of commercialisation of native potatoes, it requires various seasons of experimentation and improvement to increase production and quality. The study data shows that concept of the Kamayoq as a fee-earning service provider on native potatoes, which in the Sicuani area to date has always been an element of household production and consumption outside the money economy, is still in its infancy. The struggle to become established as an advisor to other farmers is clearly expressed in the following testimonies

I have not started working as Kamayoq yet but intend to. I don't have time at the moment. I need to build up my equipment and supplies. I would probably work in other communities. Here there is no interest and people contradict me. I am still looking for more information and training to start well and get the fruits. Marcos Mamani

Only at the level of community assemblies have I given out information, to date I have not done technical assistance services, I lack guidance, I don't know how to do it, my fellow farmers don't value that. I don't advise anybody. What am I depending upon in order to be able to start working in technical assistance? Advice, orientation, accompaniment in the first phase of the service, from ITDG. I am not active, nevertheless at the level of his relatives I am applying everything I learned, I currently have over 100 varieties of native potato. Benancio Lopez Saraya Acco Acco Phallo

Still strongly supported by Practical Action programmes, the Kamayoq specialised on native potatoes trained in 2006/7 are participating regularly in fairs and shows. The average production per community has risen from 3.5 to 6 tonnes

Impact of Kamayoq Services: Household Survey

In the sample of 51, 46 of the interviewees were household heads, there were 17 women in the sample, 12 of whom were household heads and the other 5 were partner of the household head. All the male interviewees were household heads. 57% of the interview respondents had only reached primary level of education and 20% had no education at all, whilst 23% had some years of secondary level education with 20% having completed secondary education. Of the 17 women in the sample, only one had made it to secondary school and 6 registered themselves as "illiterate"

Family size	Number of HH	%
2-4	26	51%
5-7	21	41%
8 or more	4	8%

Nearly 40% of the households surveyed have never received any services from Kamayoq. The reasons for this are very varied, but can mainly be grouped into two categories: Kamayoq services not available/reliable or the household consults other service providers/is self-sufficient.

- ⇒ *He does not like to share his knowledge with the neighbours; he does not offer any kind of service*
- ⇒ *They are almost invisible, they don't present themselves*
- ⇒ *Consulted vet more than Kamayoq, Kamayoq not in the community*
- ⇒ *Does not trust his service and prefers the professional vet.*
- ⇒ *My husband has good livestock and agricultural knowledge*
- ⇒ *The Kamayoq are migrating to other NGOs like World Vision for the pay. We would like other Kamayoq that work on potatoes and alpacas that dedicate solely to the community*
- ⇒ *The family knows about ITDG but lack of time, organisation and motivation from the Kamayoq has made provision of technical experience difficult there was support only for 1 year about 5 years ago*

Here are the contrasting experiences of two women respondents

- ⇒ *The community is contented to be able to count on a Kamayoq They don't have to rely on private traders If the Kamayoq were to stop working they would miss them very much. Whenever something happens to my cow I run to him e.g. swelling of the belly, fever, ticks/lice*
- ⇒ *About 5 years ago it wasn't value for money; the Kamayoq did not do his work well. When he tried to cure the cow he killed it and so I did not go back to him*

Information

In crops and horticulture, 10 households had received information from Kamayoq in the last 12 months, compared to 1 household in 2003. In 2003, 15 households had no source of advice and now this is down to 5. For the 51 households surveyed, government services are completely absent as providers of extension for crops and horticulture.

Kamayoq have become the leading providers of information on livestock in the zone, as the first preference of 35% of households compared to 4% in 2003. Only 9% households had ever received any livestock services from a government source.

Inputs

For inputs for crops and vegetables, shops and dealers cover almost all input requirements and Kamayoq do not have any share of this market. The picture for livestock inputs is completely different. Kamayoq have become the main source of inputs for 16 households, compared to just 2 in 2003. Shops remain first preference for 28 households. The households without any source of advice at all have fallen from 8 to 3.

There is no evidence of Kamayoq crop and horticulture input services being commercialised, whereas the Livestock specialists have succeeded in commercialising their input services to 53% of households in the sample, through a mark up on drugs that they supply and administer. Corroboration comes from the observations made on household visits enumerators in the Household survey, such as the following:

This is a poor family that lives near the kamayoq and receives services. Only pays for medicines, nothing more. People have always grown crops, the service of the Kamayoq is not so necessary in that area.

Still, 47% of the household sample state that they have received but never paid for any livestock inputs from a Kamayoq. There are three possible explanations for this.

- ⇒ These households have received free or highly subsidised drugs that Kamayoq are delivering on contract through humanitarian NGO programmes.
- ⇒ The question was understood to mean only cash payment, excluding the possibility that the Kamayoq receives in-kind payment for the service, an option which is mentioned as a common practice in both the Kamayoq and Household survey.
- ⇒ The Kamayoq themselves are giving free services from their own resources to build up their image and prestige, either to capture future clients or to gain support for their leadership ambitions

There is a major expansion of livestock in families that work with the Kamayoq compared with those that do not. However there is no difference in the self assessment of the current situation of the two different types of households, both show slightly positive aggregate trends in terms of welfare. One explanation for this is that households that work with the Kamayoq are more focussed on livestock keeping, whilst the households that do not may be more focussed on non-farm options.

Total number livestock owned by all interviewees, and average number of livestock per household, 2003 and 2008. (Cuyes = Guinea Pigs)

Households IN receipt of Kamayoq services				
	2003	2008	Average 2003	Average 2008
Alpaca	1386	2300	99	164
Cuyes	320	563	20	31

Households NOT in receipt of Kamayoq services				
	2003	2008	Average 2003	Average 2008
Alpaca	445	466	41	38
Cuyes	104	198	12	17

Household Economic Self Assessment

Households in Receipt of Kamayoq Services (31)	2008	2003
Doing Well	6	5
Just OK	21	15
Struggling	4	9
Unable to meet basic household needs	0	2

Households not in Receipt of Kamayoq Services (20)	2008	2003
Doing Well	4	0
Just OK	15	16
Struggling	1	4
Unable to meet basic household needs	0	0

These are the impacts, in the study led by Solis, which the Kamayoq themselves **claim** that they have had upon farming households. (a total of 140 were interviewed for the study)

KAMAYOQ view of their own impact	YES	NO
The farmers have increased crop production, obtaining good harvests.	74	30
The farmers have increased livestock production, more milk and meat	102	09
They have genetically improved livestock	91	16
They have learned the techniques and recommendations I have shown	106	08

Conclusions and Recommendations.

The Solis study (Annex 4) provides evidence that almost all Kamayoq have transformed their own livelihoods as a result applying the knowledge and capacities acquired in the Kamayoq School on their own farms. This finding is of interest in the international comparative study only to the extent that they then provide services which can have a significant impact in improving the accessibility and affordability of basic agricultural services to poor households. There is little to commend a model which invests such significant resources in transforming the livelihoods of 200 Kamayoq households if this does not have a multiplier impact on the broader community.

The impact of the presence of these 200 highly trained Kamayoq could be beneficial in other ways beyond direct service provision to farming households. For example Kamayoq success in developing affordable new food products for local markets may improve local food security. However for purposes of international comparison, the questionnaires applied concentrated on the direct provision of farmer-to farmer-services, and was not able to measure these more diffuse types of local economic and social impacts of the entrepreneurial activities of the Kamayoq.

The role of local service provider, given the cultural context, is something that is gradually developed over a number of years. The newly trained Kamayoq has to work hard to cross the threshold of trust and acceptance as a service provider who is able to charge and make profits within the community from which they originate. They do this by providing a wide range of advisory services to gain the confidence of their communities and gradually introducing the fee based service element.

The finding here is that for 60% of the Kamayoq surveyed, the service role provides either the complete or main livelihood. In the 4th and 5th groups in particular we find significant income levels reported from livestock service provision, between 150 and 500 soles a month in the busy season. The findings of this study contradict the finding from the Solis study that the service role is overwhelming secondary, just a “top-up” to the Kamayoq farm income.

The early stages of the service role came with setbacks as occasionally the Kamayoq killed livestock by wrong dosages and in other cases the Kamayoq preferred to work in other communities than their own due to negative social pressures. Little by little the Kamayoq started building up the skills and client base and providing inputs, establishing their position and reputation. In the results of the survey this is shown by the fact that 67% of those trained have, at some point, carried out the role of technical service provider to the poor small scale farming community.

Sixty-three percent of the Kamayoq surveyed had at some point been hired by an organisation to carry out technical training of groups or implement an intervention. There is a group which has become specialised in providing services on contract to institutions, with stable and guaranteed income. Solis estimates that 10% of Kamayoq have taken this path. Here specialities such as irrigation or horticulture have better prospect of income than working for clients within the communities. Kamayoq have been selected by institutions for a combination of their technical expertise and qualities as a facilitator.

In the last five years Kamayoq have emerged as a major player in the provision of livestock services in Sicuani. In 2008 they are the **first choice provider** of livestock medicines and other inputs for 35% of the households surveyed, up from 4% in 2003.

Their impact in the field of crop and horticulture services is more diffuse. It is part of the portfolio of complimentary advisory services of most Kamayoq, **even those specialised in animal health**, as they build up their expertise and reputation as technology innovators across the spectrum of production activities. The most successful Kamayoq in the field of irrigation, trained from 1997 to 1999, have built their livelihoods by working on contract across the Peruvian Andes rather than remaining in their home areas, so the impact of the Kamayoq experience cannot be limited to Sicuani.

The main limitation on further impact is the fact that the successful Kamayoq School experience is unique, it has come about only as a result of the initiative of one institution. The Kamayoq School is the only proposal of its kind: no other institution has adopted it. From the farmers' point of view in Canchis, it is the *only reference point for alternative rural education*. At the time of the study just over 200 Kamayoq had qualified since 1997, which creates concerns and a need to explore whether such an intensive approach is viable for other institutions to adopt. Between Practical Action and the Kamayoq a tight bond is maintained which may create difficulties for synergies with other NGOs and institutions that may wish to join in with Kamayoq experience and bring new and different ideas to the table.

The Kamayoq School has always been vulnerable due to its dependence upon international development aid funding. Its sustainability is always in danger, depending upon the next project. **There is a need to create a model for institutionalising the School within a broader framework of institutions.**

This will require an explicit scaling up initiative with a strategy for influencing other institutions to implement the Kamayoq model, through agreements and guidelines that ensure that it continues to function in its original form. It means seeking official recognition and issuing of certificates by the state, **a situation so longed-for by all Kamayoq**. A memorandum of understanding should be established with the Ministry of Education and the National Assembly of University Rectors to work on a proposal for formalisation of the Kamayoq curriculum.

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Annex 1: Kamayoq Questionnaire.

0. Have you been trained as a CBE?	No	Yes
	00	01

This is a checking question. If no, say thank you and goodbye

Identification of Household	
Name of Person Interviewed _____	<input type="checkbox"/>
Name of Community _____	<input type="checkbox"/>
Name of Village _____	<input type="checkbox"/> <input type="checkbox"/>
Name of Sub-District _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Household Code	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

To be completed by Interviewer	Date of Interview
Name of Interviewer _____	Day <input type="checkbox"/> <input type="checkbox"/>
Signature _____	Month <input type="checkbox"/> <input type="checkbox"/>
Comments:	Year <input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0 <input type="checkbox"/>

Introduction to interviewee

Hello, my name is ... and I work for Practical Action

Your household has been selected because you

1. EXTENSIONIST PROFILE

I would like to ask you a few questions about yourself...

1.1 Relationship to household head <i>(write code)</i>	1.2 Marital status				1.3 Age <i>(write age in completed years)</i>	1.3 Gender		1.4 Have you been to school		1.5 Years of school completed <i>(write number or 00 if none)</i>
See relationship	Married 01	Single 02	Widow/er 03	Divorced 04		Male 01	Female 02	No 00	Yes 01	
Codes: Relationship to household head 01 = household head 02 = wife 03 = son / daughter of head or wife 04 = son-in-law / daughter-in-law of head or wife 05 = grandson / granddaughter of head or wife 06 = father / mother of head or wife 07 = brother / sister of head / wife 08 = other relative of head/ wife 09 = adopted 10 = non-relative / servant										

2. TRAINING

2.1 Please list any production training from other organizations before ITDG							
2.2 How many days of kamayok/promotor training have you received from ITDG in total (including refresher training)							
2.3 Why did you decide to accept the training? <i>Circle as many as mentioned.</i> (No prompt)	Income 01	Skill 02	Network 03	Social Status 04	Knowledge 05	Obliga tion to society 06	Other 07 ⇒ please explain
2.4 What were the broad topics areas of the training <i>Circle all that are mentioned</i>	Integrated 01	Animal husbandry 02	Crops 03	Irrigation 04	Gender 05	Other 06	
2.5 Please give precise course name(s) and year if you remember from ITDG							
2.6 What type of support did you receive immediately after the training? (Give examples) <i>Circle all that are mentioned</i>	Equip. 01	Drugs 02	Seeds and Fertiliser Inputs 03	Technica l leaflets 04	Remuner ation 05	Other 06 ⇒ Qn 2.9	
2.7 If other, what other type of support did you receive?							
2.8 Did you use your CBE certificate to obtain credit or other advantages	No 00	Yes 01	If Yes ⇒ Describe				
2.9 Can you list other CBE received from other organisations besides ITDG.	Name of the training and organisation						
2.10 Please list any investments you have made in training or updating for your own development (including transport and food costs)							
2.11 Did you participate in any exposure visits (ITDG, other org, own initiative) Visit 1.... Visit 2... Visit 3....	NO 00	Yes 01	2.11 If yes state value to your work.		Very 01	Quite 02	Not 03
2.12 Have you been involved in training other CBEs?				NO 00	Yes informally 01	Yes formally 02	

3. DROPPING OUT

3.1 After the training did you start working as a CBE?	00 No ⇒ Qn 3.2	01 Yes ⇒ Qn 3.3
3.2 If not, why not? (end of questionnaire)		
3.3 If yes for how long? (Years)		
3.4 Are you still working now?	00 No ⇒ Qn 3.5	01 Yes ⇒ Qn 4.1
3.5 Why did you stop working?		
3.6 Is there anything which caused you to start working again?		

If stop working after one year, then end here. Otherwise continue.

4. COVERAGE

4.1 How many villages do you cover?	4.2 What is the distance to your furthest away client, in kilometres	4.3 How often do you provide a service to this most distant client	4.4 How long does it take to reach furthest client or for your client to reach you in hours with which mode of transport									
4.5 In what ways have you attended the farmers (if other please specify) <i>Circle as many as appropriate</i>		Regular routes around the village or settlements 01	Whilst selling inputs 02	As part of business partnership with farmer 03	Farmer calls you out 04	Phone consultation 05	Emergency call out 06	Other 07				
		If other specify here.										
4.6 How much service do you give the poorest section of the community Ask respondent to choose one, without prompting. <i>If necessary discuss with CBE an example of a poorest family in the local context</i>		Poor are my priority for service 01		The poor and the non-poor get equal service 02		I prioritise those with more ability to pay 03						
4.8 What transport do/did you use to reach the farmers? <i>Circle as many as appropriate</i>												
Walk 01	Bicycle 02	Motorcycle 03	Bus 04	Rickshaw 05	Local motorised transport 06	Boat 07	Horse 08	Other 09				
4.9 Please fill the following table with respect to your most recent year of service												
Year.....	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Number of clients												
Ave income (Taka)												
Tick Busy months												
Tick Less months												

During your period as a CBE what has been the trend in the total number of farmers you have attended.	More 01	Same 02	Less 03
---	------------	------------	------------

5. TECHNICAL ASPECTS

5.1 What type of service do you provide?	No 00 Yes 01		5.2 Do you charge?					
Livestock Advice								
5.1.1 Diagnosis of disease	No 00	Yes 01	No 00	Yes 01				
5.1.2 Pasture management	No 00	Yes 01	No 00	Yes 01				
5.1.3 Livestock feed	No 00	Yes 01	No 00	Yes 01				
5.1.4 Breeding	No 00	Yes 01	No 00	Yes 01				
5.1.5 Other (Specify)								
Livestock Service/Inputs								
5.1.6 Vaccinations	No 00	Yes 01	No 00	Yes 01				
5.1.7 Drugs apart from vaccinations	No 00	Yes 01	No 00	Yes 01				
5.1.8 Operations (eg Castration)	No 00	Yes 01	No 00	Yes 01				
5.1.9 Feed supplements	No 00	Yes 01	No 00	Yes 01				
5.1.10 Calving	No 00	Yes 01	No 00	Yes 01				
5.1.12 Insemination	No 00	Yes 01	No 00	Yes 01				
5.1.13 Supply of animals	No 00	Yes 01	No 00	Yes 01				
5.1.14 Supply/loan of breeding stock	No 00	Yes 01	No 00	Yes 01				
5.1.15 Other (Specify)								
5.1 What type of service do you provide (continued)	No 00 Yes 01		5.2 Do you charge?		5.3 Frequency of operation per month			
Crops Advice								
5.1.16 Diagnosis of crop pests and diseases	No 00	Yes 01	No 00	Yes 01				
5.1.29 Soil erosion	No 00	Yes 01	No 00	Yes 01				
5.1.30 Ploughing and Land Preparation	No 00	Yes 01	No 00	Yes 01				
5.1.31 IPM advice	No 00	Yes 01	No 00	Yes 01				
5.1.32 Soil fertility	No 00	Yes 01	No 00	Yes 01				
5.1.33 Soil testing	No 00	Yes 01	No 00	Yes 01				
5.1.34 Composting advice	No 00	Yes 01	No 00	Yes 01				
5.1.35 Fertiliser Advice	No 00	Yes 01	No 00	Yes 01				
5.1.36 Terracing, bunding and other water conservation.	No 00	Yes 01	No 00	Yes 01				
5.1.37 Weed Management	No 00	Yes 01	No 00	Yes 01				
5.1.38 Agro-forestry advices	No 00	Yes 01	No 00	Yes 01				
5.1.39 Recommendations on seed varieties	No 00	Yes 01	No 00	Yes 01				
5.1.40 Other (Specify)								
Crops Service/Inputs								
5.1.41 Pesticide supply	No 00	Yes 01	No 00	Yes 01				
5.1.42 Sapling supply	No 00	Yes 01	No 00	Yes 01				
5.1.43 Irrigation management	No 00	Yes 01	No 00	Yes 01				
5.1.44 Seed selection and multiplication	No 00	Yes 01	No 00	Yes 01				
5.1.45 Seed Priming	No 00	Yes 01	No 00	Yes 01				

5.1 What type of service do you provide?	No 00 Yes 01		5.2 Do you charge?					
5.1.46 Seed supply	No 00	Yes 01	No 00	Yes 01				
5.1.47 Fertiliser Supply	No 00	Yes 01	No 00	Yes 01				
5.1.48 Seed storage	No 00	Yes 01	No 00	Yes 01				
5.1.49 Crop storage	No 00	Yes 01	No 00	Yes 01				
5.1.50 Agro processing	No 00	Yes 01	No 00	Yes 01				
5.1.51 Other (Specify)								
Market Information								
5.1.52 Prices	No 00	Yes 01	No 00	Yes 01				
5.1.53 Demand for particular crops/products	No 00	Yes 01	No 00	Yes 01				
5.1.54 Packaging	No 00	Yes 01	No 00	Yes 01				
5.1.55 Other (Specify)								

5.5 Have you developed any new practice or improvement in technology for use by yourself and others?	00 No ⇒ Qn 5.7	01 Yes ⇒ Qn 5.6
5.6 Describe		

5.7 If you come across a technical/disease problem you are not familiar with, where do you get information?	No 00 Yes 01 (Indicate as many as apply)	5.8 Do you pay for the information? No 00 Yes 01	5.9 How satisfied are you with the information they give		
Other promoter or kamayok	No 00 Yes 01	No 00 Yes 01	01	02	03
Friends / neighbor / relatives	No 00 Yes 01	No 00 Yes 01	01	02	03
Government staff	No 00 Yes 01	No 00 Yes 01	01	02	03
Municipality					
NGO	No 00 Yes 01	No 00 Yes 01	01	02	03
Agrovet	No 00 Yes 01	No 00 Yes 01	01	02	03
Intermediary Dealer	No 00 Yes 01	No 00 Yes 01	01	02	03
Schoolteacher	No 00 Yes 01	No 00 Yes 01	01	02	03
Experienced farmer	No 00 Yes 01	No 00 Yes 01	01	02	03
Other (Specify)		No 00 Yes 01	01	02	03
CODES How satisfied are you with the information? 01 Good 02 Regular 03 Bad					

6. INPUTS AND SUPPLIES

6.1 What is your source of inputs and supplies for your work as CBE?	No 00 Yes 01	6.2 Do you experience difficulty obtaining supplies?	6.3 What form of payment do you use to obtain inputs and supplies?									
Other kamayok	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
Government	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
NGO	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
Company distribution	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
Agrovet	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
Intermediary dealer	No 00 Yes 01	01 02 03	01	02	03	04	05	06	07	08	09	10
Other (specify)		01 02 03	01	02	03	04	05	06	07	08	09	10
		CODES Do you experience difficulty obtaining supplies? 01 Often 02 Sometimes 03 Never	CODES What form of payment do you use to obtain inputs and supplies? 01 Free 02 Shop credit 03 NGO credit 04 Revolving fund 05 Bank credit 06 Cash									

7. REMUNERATION/DEDICATION

7.1 What is your level of dedication to the CBE work? <i>Circle one</i>	Full time occupation 01		Main but not only occupation 02		Secondary occupation 03	
7.2 How do the farmers pay you for the input or information? <i>Circle as many as appropriate</i>	Cash 01	Kind 02	Reciprocal Work 03	Other 04		
7.3. If a farmer is too poor to pay (in cash or kind), what do you do? Describe						
7.4 Have you been hired by other people or organisations for your existing extension work?	No 00	NGO 01	Municipality 02	Commercial farm 03	Agrovet 04	Other 05
Name of People/Organisation(s)						
7.5 What were the benefits?	Single payment 01	Regular payment 02	Kind 03	Respect 04	None 05	

8. SUSTAINABILITY/MOTIVATION

8.1 Have you had any problems as a kamayok?	00 No ⇒ Qn 8.4	01 Yes ⇒ Qn 8.2
8.2. What are the most critical problems of being a kamayok?	1. 2. 3.	
8.3 What have you done to resolve these challenges?		
8.4 What was/is your motivation to keep on working as a community extension worker?		
8.5 What is the single most attractive aspect of working as a CBE?		
8.6 Is there anything that would cause you to cease working as a CBE?	00 No ⇒ Qn 8.8	01 Yes ⇒ Qn 8.7
8.7 If yes, describe		
8.8 What in the your opinion are the characteristics of a good community based extensionist?		

9. RECORDS

9.1 Do you keep records Check whether the person will allow the records to be photocopied for analysis.	No 00 - Yes 01
--	----------------

END

Annex 2: Household Questionnaire Peru

Identification of Household	
Name of Respondent _____	
Name of Village _____	<input type="checkbox"/>
Name of Department _____	<input type="checkbox"/> <input type="checkbox"/>
Name of Region _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Household Code _____	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

To be completed by Interviewer	Date of Interview
Name of Interviewer _____	Day <input type="checkbox"/> <input type="checkbox"/>
Signature _____	Month <input type="checkbox"/> <input type="checkbox"/>
Comments:	Year <input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0 <input type="checkbox"/>

Introduction to interviewee

Hello, my name is ... and I work for Practical Action
Your household has been selected because you

1. HOUSEHOLD PROFILE

Firstly, confirm that the person that you are talking to is the person named on the front of the form.

If it is a secondary beneficiary or a non beneficiary please confirm you are talking to the household head.

[1] Are you the head of the household?

Yes 1	No 0
----------	---------

1.1 Now I would like to ask you some general questions about your household members.

Lets start with yourself **(i.e. the person named)**

Line No.	Age <i>(write age in completed years)</i>	Male/ Female <i>(circle one)</i>	Years of school completed <i>(write number or 00 if none)</i>	Attending school now? <i>(circle one)</i>
(2)	(3)	(4)	(5)	(6)
01 (interviewee)		Male 1 Female 2		Yes 1 No 0
02		Male 1 Female 2		Yes 1 No 0
03		Male 1 Female 2		Yes 1 No 0
04		Male 1 Female 2		Yes 1 No 0
05		Male 1 Female 2		Yes 1 No 0
06		Male 1 Female 2		Yes 1 No 0
07		Male 1 Female 2		Yes 1 No 0
08		Male 1 Female 2		Yes 1 No 0
09		Male 1 Female 2		Yes 1 No 0
10		Male 1 Female 2		Yes 1 No 0
11		Male 1 Female 2		Yes 1 No 0
12		Male 1 Female 2		Yes 1 No 0

2. COMMUNITY EXTENSION

Now I am going to ask you some questions about access to information and inputs for agricultural livelihoods. .

2.1 Is there a Kamayoq in your community? *(circle one)*

Yes 1	No 0 ⇒ Q	Don't know 3 ⇒ Q
----------	----------------	------------------------

2.2 If yes, have you ever received any service from him or her? *(circle one)*

Yes 1	No 0 ⇒ Q
----------	----------------

2.3 If you have never received any information or inputs from the kamayoq, why not? *(write answer)*

2.5 Have you received any service on **crop/horticulture** from a Kamayoc? If yes, please rate.

2.6 Have you received any service on **crop/horticulture** from a private dealer? If yes, please rate.

2.7 Have you received any service on **crop/horticulture** from the government? If yes, please rate.

2.8 Have you received any service on **crop/horticulture** from the NGO? If yes, please rate.

2.9 Have you received any service on **livestock** from a kamayoq? If yes, please rate.

2.10 Have you received any service on **livestock** from a private dealer? If yes, please rate.

2.11 Have you received any service on **livestock** from the govt? If yes, please rate.

2.13 Have you received any service on **livestock** from an NGO? If yes, please rate.

Used		Relevance			Availability / responsiveness / timeliness		
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3
Yes 1	No 0	Good 1	Average 2	Poor 3	Good 1	Average 2	Poor 3

2.4 Apart from the specific trainings we have just talked about, what is the most important source of farm inputs and advice for the areas of production that you practice? If you get from more than one source, please give the most important one.

Activity	NOW	2003	
Inputs relating to crops or vegetables			Codes: Sources of advice 1 = Public institutions 2 = Kamayoc 3 = other farmers 4 = shop keepers / dealers 5 = NGO 6 = no source of input or advice 7 = I don't practice 8 = I don't know 9 = other (specify)
Information on crop / vegetable production			
Inputs relating to livestock including poultry			
Information on Livestock including poultry			

2.14 Do you pay for **inputs** from the kamayoc? I am just talking about inputs like seeds, or drugs, not advice. (circle one)

Crops, horticulture, etc

Livestock

Always 1	Sometimes 2	Never 3
Always 1	Sometimes 2	Never 3

2.15 Do you pay for **information** only from the kamayoc, when you are not paying for inputs, By information I mean skills, or advice on how to apply drugs or fertilizers or how to manage fish? (circle one)

Crops, horticulture, etc

Livestock

Always 1	Sometimes 2	Never 3
Always 1	Sometimes 2	Never 3

3. HOUSEHOLD INCOME

Next, I'd like to ask you how your household makes its living. In the last 12 months

3.1 Which types of work or activity did the household do during a 12 month period 5 years ago (column X).

What is your primary source of cash income from agricultural sales?

What is your second source of cash income?

What is your third source of cash income?

How many sources of cash income in the household in total (including the above)?

What is your total cash income from agriculture?

1. Alpaca wool sales
2. Alpaca sales
3. Cattle sales
4. Sheep sales
5. Guinea pig sale
6. Chicken sales
7. Potatoes
8. Vegetables
9. Seed Potatoes
10. Sale of Lisas (cant remember what this is)
11. Beans
12. Other

Now	2003		
	More 1	Same 2	Less 3

4.HOUSEHOLD & PRODUCTIVE ASSETS

Next, I'd like to ask you about what productive assets your household owns now, and what the household owned in the past.

- 4.1.What type of house do you live in? *(enter code)*
- 4.1.1 Stone walls/thatch roof
 - 4.1.2 Adobe walls/thatch roof
 - 4.1.3 Adobe walls/corrugated iron roof
 - 4.1.4 Adobe walls/corrugated iron roof/glass windows, one floor
 - 4.1.5 Adobe walls/corrugated iron roof/glass windows, two floors
 - 4.1.6 Concrete house

Now	2003

What number of each of the following assets does your household currently own, and how many did the household own in 2003 **Enter the number of animals or items.**

HOW MANY!!		Number								
		Now	2003					Now	2003	
	(16)	(17)			(16)	(17)				
HOUSEHOLD					LIVESTOCK EQUIPMENT					
Radio	01				Shears	27				
Clock	02				Wire fencing	28				
Television	03									
Bicycle	04									
Phone (including mobile phone)	05									
Motor cycle	06									
Cart	07									
Car / van / pickup	08				FARM EQUIPMENT			33		
Well / tap for domestic use	09				Plough	34				
Latrine	10				Leveller	35				
AGRICULTURE					Hoe	36				
Bull	12				Power tiller	37				
Alpaca	13				Thrasher machine					
Cow	14				Tiller	38				
Rams	15				Well for farm use	39				
Sheep						40				
Horse	16					41				
Goat	17					42				
Donkey	18									
Guinea Pigs	19					43				
Poultry	20									
Duck	21				OTHERS (name asset)					
						44				
						45				

						46			
						47			

4.3 When you are really struggling, which of the following coping strategies have you used? Do you use them more, the same or less during the last 12 months than you did in 2003

Coping Strategies	(16)	(17)			
Local wage labour	01	More 1	Same 2	Less 3	Never Practiced 4
Migration for farming wage labour	02	More 1	Same 2	Less 3	Never Practiced 4
Borrowing from a money lender	03	More 1	Same 2	Less 3	Never Practiced 4
Receipt of food aid	04	More 1	Same 2	Less 3	Never Practiced 4
Receipt of other relief	05	More 1	Same 2	Less 3	Never Practiced 4

5.COMMUNITY EMPOWERMENT

5.1. Does you community assembly deal with the theme of kamayoq
(circle one)

If yes, indicate what was agreed

Yes 1	No 0	Don't know 2
Male	Female	

5.2 How many members of the household made some inputs into this decision making process? (enter number If no-one enter 00)

5.3 What was their role or what inputs did they make? (describe)

--

5.4 Are kamayoq services more available as a result?

Yes 1	No 0	Don't know 2
----------	---------	-----------------

5.5 How have you benefited?

--

Does your community still maintain agreements on the work of the kamayoc?

Yes 1	No 0	Don't know 2
----------	---------	-----------------

5.7 For this question we would like to know if women feel more empowered as well as men. If the interviewee is male, please try to ask the question directly to his wife to obtain her own answer. If this is not possible then do not complete for the woman on her behalf. Leave this part blank.

--

Do you participate in any decision making in the community?
(circle)
 In 2003, did you participate in any decision making in the
 community? *(circle)*

Yes 1	No 0
Yes 1	No 0

6.SELF-ASSESSMENT OF HOUSEHOLD SITUATION

Considering all the questions discussed in this interview, how would you describe the situation of your household now?

Categories	Now <i>(circle one)</i>	2003 <i>(circle one)</i>
(97)	(98)	(100)
DOING WELL – able to meet household needs by your own efforts, and <u>making some extra</u> for stores, savings and investments (e.g. buying livestock or other assets, improving farmland, improving housing etc)	1	1
DOING JUST OKAY - able to meet household needs but with <u>nothing extra</u> to save or invest	2	2
STRUGGLING – managing to meet household needs, but by <u>depleting productive assets</u> and / or sometimes receiving support from community or government	3	3
UNABLE TO MEET HOUSEHOLD NEEDS - <u>dependent on support</u> from community or government	4	4

Assess from the response whether the interviewees situation has got better or worse over time.

Why has your situation got better / worse over time?
(write response)

Can you tell me which aspect of the kamayoc services had the most impact on the livelihood of

your household?

(write response)

Why?

(write response)

Finally, can you tell me which aspect of the presence of the kamayoc had the most impact on the wellbeing of your community?

(write response)

Why?

(write response)

Notes....

Annex 3: Semi Structured Interviews with Kamayog

TRAINING

1. Why do you think you were selected for extensionist training?
2. Was there an adequate balance between learning practical skills in the field, and with classroom based learning?
3. What aspects of the learning have you communicated the most to farmers?
4. What part of the training was not useful?
5. Did you face any difficulty of learning/understanding in the training because of the language/vocabulary/ways of teaching used? Please explain.
6. Once you stated working did you notice any gaps in the training that ought to be filled?
7. How have you updated your knowledge and practice to cope with emerging changes?
8. Did you receive a certificate, and if so what were the benefits

TECHNICAL

9. Describe the most complex technical procedure you perform
10. Describe any technical innovations that you have noticed farmers have developed as a result of your advice/services
11. How do you know that your advice/treatment had been effective?
12. Have you ever given advice/inputs that didn't work very well? What was it? How did you deal with that situation?

CLIENTS

13. Who are the priority clients for you service? (we can prompt by giving options such as Kin Friends Rich Farmer etc) Why?
14. If a farmer is not able to pay (in cash or kind), what do you do?
15. Are there times when you do not want to provide a service to client? Why?
16. Have you observed in some cases that farmers have learned from you and as a result no longer require your services? What is your approach in this case?

COMPETITION/COLLABORATION

17. Are there other types of service providers offering a similar service? Who are they, in what areas do they overlap with your service and if so how does this affect your operation as an extensionist?
18. Do you face any problems from government due to legislation or regulations which aim to limit your activities?
19. Do you collaborate with other community extensionists. How? When? How often?
20. Do you belong to a community extensionist organization/network?
21. If yes, what are the benefits
22. Do you collaborate or benefit from linkages with government or private agriculture service providers

1. Juan Huacani

Community Llallawi

District Marangani

Province Canchis

Interviewer Zenon

Comments: He wanted me to participate in the communal assembly, due to my fieldwork strategy I excused myself. The interview was really fruitful once the assembly ended.

1. Due to my knowledge capacity – I was proposed by the community and did an ITDG exam. Also due to my responsibility – have held various posts previously.
2. The ITDG facilitators trained me 4 days a month. The classes were in Spanish and quechua, very understandable. Specialisation course: animal fattening, animal health – for practical we went to other communities.
3. Animal health, alpacas, cows and sheep, and fattening too. Likes pig rearing – he is training on that.
4. Everything was useful for me except guinea pig rearing
5. He is bilingual and didn't encounter any difficulties
6. Would like to be trained on AI – alpacas and cattle. Management and procurement of cattle (improved breeds) especially milk herds. Construction of infrastructure; feeding centres, stables.
7. Forages – in the dry season I have prepared silage, provision of vitamins and antibiotics- prevention against symptomatic carbuncle; the altitude illness. Construction of alpaca shelter, supported by ITDG
8. I have got three certificates issues by ITDG, SENASA and IVTA (Instituto Veterinario e Investigación Tropicales y Altura) and UNMSA
Benefits: I can give services as a delivery technician for alpacas and general treatment for livestock: alpacas, cattle and sheep. I also treat dogs as they transmit diseases to other animals. The community hires me for animal health.
9. In the first months of practice I had problems with alpaca delivery, with practice I learned and overcame all the difficulties. Bleeding is produced during the extraction; this is resolved with oral medicines combined with natural medicines.
10. Selection of potato seeds, selection of quinoa seeds in small quantities.
Livestock substitution of improved breeds for native breeds but this is incipient.
11. Seeing the results, dealing with challenges with demonstration in practice.
Corroborated and fed back from clients, family member and community users.
12. Preparation of lands for cultivation of improved pasture. To my clients I provide medicines with guarantees from veterinary dealers, I test them on my animals first.
13. I attend all and give service equally, including during the night if a community member requests. Why? I have been trained due to the support of my community and I am obliged to serve and share what I know with my community neighbours.
14. I always provide a service, otherwise the community members will criticise me in the assembly. Nevertheless, if a community member doesn't pay me for the second or third time, I remind him and if he is conscientious – if he doesn't have money he will pay me in produce – for example barley for bran.
15. Yes but they don't go beyond oral administration of drugs – its easy. But for any more complicated case – taking out the alpaca at the moment of birth – the community members will call me. I feel satisfied as it is good that the young people learn
16. When I left ITDG I didn't have many clients but I gained confidence working with SENASA on vaccination campaigns, little by little the community at Mamuera and Occobamba got to know me and now the entire community has confidence in me. The ups and downs come during harvest season.

17. Yes there are some agroveterinary technicians. But they don't practice alpaca delivery. They coincide on animal health, vaccination but that is normal, they don't stay around.
18. None, nobody is getting in my way, SENASA on the other hand hires me for the vaccination campaigns against symptomatic carbuncle.
19. Yes, I lend my work instruments, medicines and personal help, because I am a leader and they trust me
20. I belong to the Asociacion of Kamayoc
21. I receive training through the Assoc some institutions give us support. They also request project ideas from the alpaca zones.
22. I only collaborate with SENASA and with the farm experimental centre RAYA – there I got to know and learn more experiences in alpaca rearing. Service providers – the medicines promoted by ITDG are good and also those from well known vets.

2. Eulogio Barrientos Valencia

Community Condor Sencca

Distrito Sicuani

Province Canchis

Interviewer: Zenon

Comment: It was a bit difficult to locate the interviewee, as he was not in his homestead nor in his cabin, but grazing his alpacas in the high mountainside. The information he have was not very spontaneous, he maintained a certain reserve.

1. I presented myself voluntarily to ITDG, there they evaluated me and subsequently I finished the training, due to the support of the elected assembly members. At the time I lived in Sicuani and another trainee was the son of a neighbour who was not a registered community member. So the communal assembly approved by vote my attendance at the Kamayoq training, I started to train from October onwards and I subsequently caught up and received follow up.
2. Yes although I already knew about basis themes of livestock management, due to my experience during the time that I occupied the director role in the community livestock committee, I did Ministry of Ag courses.
3. Curing animal sicknesses: alpacas and cattle, management, feeding and selection of alpacas.
4. Everything I learned was useful- it works for me.
5. The time is very short, some of the engineers taught us with audiovisual equipment, whilst I visualised the theme of my interest the teachers were giving explanations, therefore under these conditions I got confused. Other engineers gave us better explanations using papers. The language OK as they complemented in quechua, there was only one engineer who didn't speak quechua
6. There should be more training time – for follow up. Lacks AI for alpacas, cattle and perhaps sheep. Longer exchange visits for better understanding. More training in handling of instruments and equipment for animal health work.
7. Taking into account the alpaca calendar, monthly control of diseases to detect any disease on time. Vaccination of dogs against SARCOUSTOSIS and HIDRATOSIS to prevent contagion from dog to alpaca.
8. I have received certification from ITDG and SENASA, IVTA from the RAYA farm – UNSAAC (Universidad Nacional de San Antonio Abad de Cusco). This allows me to work on SENASA campaigns. But the ITDG certificate is not accepted it needs to be more official.
9. In management and cultivation of improved pasture, due to water scarcity, characterisation of soil types, irrigation installation and water management
10. Cultivation of improved pasture, measuring fibre width of alpaca wool, 18-20 micras is good, knowledge on the density of alpaca wool. These innovations

came through advisory input from CONACS (Consejo Nacional de Camelidos Sudamericanos) and PERSA

11. Through the results experienced with clients animals- as expressed by the clients. Prior to that I test out on my livestock – that guarantees the work. Then I assess and give agro veterinary medicines.
12. Initially it was a bit difficult on provision of medicines as it seems they were not pure. But I quickly rectified this buying the products directly from the well known drug companies, with guarantee.
13. I only fail my clients due to lack of time. I attend all of them equally, to achieve that I need to be advised of their needs in good time, not at the last minute.
14. Some people have their own vet already– they don't need my service and they don't look me out. I don't bother to go to them.
15. In some cases the community members know about animal health – traditional knowledge. On current applications they are not aware and they consult me. Those that learn from me – good for them.
16. I always have more clients, above all in the period January to March, after the harvest.
17. There are technicians who work only for some families, they talk bad about my work, I charge a bit less than them and for that I believe they are jealous. This doesn't affect me much because they don't stay much time in my community.
18. Only SENASA they control us with regard to quality and authenticity of medicines.
19. Coordination of vaccination campaigns. Other Ks seek me out for me to lend them instruments or medicines. Once or twice a year.
20. Yes
21. When there are vaccination campaigns against symptomatic carbuncle or altitude sickness in alpacas
22. I collaborate with SENASA. I benefit with medicines, guaranteed and stamped through the SENASA-ITDG agreement.

3. German Cruz

Community: Ccuyo

District: Marangani

Interviewer: Zenon

Comment: German Cruz is a Kamayoq who is dedicated exclusively to the rearing of improved guinea pigs through selection. He has a one shed fully occupied, a he will fill up a second one purely with females. He has more than 100 guinea pigs and he markets them directly from his own farm, for feed he grows improved pasture (alfalfa) under irrigation, he is a community leader giving talks to other guinea pig rearers in the zone.

1. The community proposed me because of my responsibility level, vision for self improvement, then I was evaluated by ITDG according to a series of requirements all of which I could fulfil.
- 2 It was appropriate, proof of that is that the trainers took us to the UNSAAC farm (la RAYA) For sheep rearing we went to Pampaphalla, for cattle fattening we went to Sicuani and we travelled to Chuquibambilla. Then we practiced on our own animals before those of the clients. We have practiced what we learned, the vaccination of dogs against HIDATIDOSIS which is the origin of illnesses in livestock and humans.
- 3 Animal health (prevention and treatment). Guinea pig rearing. Personal motivation to be better producers
- 4 We have not done irrigation, the various types.
- 5 The training methodology was good
- 6 Artificial Insemination for livestock, ITDG could facilitate internet for us is necessary. Lacking parasitology lab to analyze animal excrement. Watering and feeding troughs
- 7 Giving talks, interchange of experiences. I have promoted/overseen the reduction in the excessive number of dogs which were a focus of latent contagious disease,

- from the vaccination campaign; the owners have voluntarily eliminated some dogs.
- 8 From ITDG I only got an internal certificate, SENASA awarded me a formal certificate. The ITDG one does not benefit me, it is not valid for work applications. ITDG should make an agreement with the Ministry of Agriculture or other institution to issue a valid certificate
 - 9 I hardly practice complex procedures at all because there are many risks. On the other hand I suppose that administering drugs is a big responsibility, according to the weight and illness of the animal, the dosage has to be precise.
 - 10 Cultivation of improved pasture – alfafa moapa variety CW625. Installation of guinea pig rearing infrastructure. Tagging of alpacas for easy identification. Animal selection.
 - 11 When the client comes back to me for repeat service.
 - 12 The first time I bought drugs from the agroveterinary dealer they were not effective. Alvezolol- seems that it was adulterated. Now I don't buy at random even though it might be a known brand, now ITDG has put us in contact with distribution companies for better confidence and credibility, and these medicines are effective.
 - 13 My duty is to attend everyone equally, except those who have brought their own technicians from other places.
 - 14 I always give the service, I even go from house to house when I have time, moreover if somebody asks me when I am on my way I recommend appropriate medicines, but I always have to see the livestock.
 - 15 They learn simple things, but not the more complex ones. The more I can teach the better, its good to learn.
 - 16 I have had an increasing number of clients ever since I graduated as a Kamayoq, there are not frequent dips.
 - 17 Only on campaigns, we get animal health technicians, on a temporary basis. I am not affected, there are days when I don't have time to cover the demand.
 - 18 I have never had any problems with the work, I only lack formal certification in order to be hired by bigger institutions.
 - 19 Yes, lending inputs, equipment, and coordination of work. When, according to what the communal assembly says, we are requested to collaborate – monthly or bi-monthly according to our plans.
 - 20 I do belong
 - 21 Training, exchange visits; I get hired for general administration of animal drugs.
 - 22 I am involved in participatory budgeting, but I receive little from the public institutions, the municipalities make you come to apply for something, but the answer is that you have to wait.

4. Sergio Mamani Maxi

Community: Mamuera

District Marangani

Interviewer: Zenon

Comment: I ran into the interviewee on the road. He didn't have time to stop, for that reason I followed him to his alpaca estate "Phause" – at Ccuyo, a distance of 30 km, we left from the spot we met at 0830 and arrived at 1630 in the middle of a rainstorm...

1. I presented myself in ITDG voluntarily, I expressed my vision to create an association of alpaca herders and then they supported me, having evaluated me. I put myself forward due to the fact that the Kamayoc designated by my community quit. I belong to the 5th group.
2. There was a good balance, but they prioritised aspect pertinent to valley zones. I learned all the themes offered, like compost preparation, preparation of fields for pasture cultivation, the theory was immediately applied in practice, especially in vaccination campaigns.

3. Animal health, cultivation of improved pasture, guinea pig rearing: in Mameura now I have brought together 15 guinea pig rearers into a communal organisation.
4. Irrigation – everything else is useful
5. The whole training process was easy and understandable
6. Artificial insemination, (Genetic bank – semen) Then we could dispense with male breeders. Installation of fields (fenced areas for cultivation of natural or improved pasture) Nucleus herd for genetic improvement. Training on surgery for large and small livestock, to know the cause of mortality. Training on IT and internet, to allow us to update ourselves.
7. Vaccination against symptomatic carbuncle, and castration of donkeys and pigs.
8. I received from SENASA, INIA, CTAR –Cusco – Agro-livestock technician. Benefits: I work when there are inter institutional programmes. ITDG should offer a certificate through an agreement with central government or municipalities.
9. None, as I know the occupational field which is my area.
10. Guinea pig rearing, cultivation of improved pasture, I know which class of medicines to apply in each case of guinea pig disease. Characterisation and selection of alpacas.
11. I verify the results of my work personally; the clients congratulate me.
12. No because I provide medicines that have the seal of guarantee and come through SENASA and ITDG.
13. All are important and equal. Except those in arrears, who have failed to pay on repeated occasions. Those in arrears who don't have money they pay me with barley, I accept without any problem.
14. When they contact me at the last minute sometimes I have other urgent works already programmed, they should let me know about their service requirements in advance.
15. They learn basic things. They should try harder. I give services routinely to any person. To strengthen their capacities I say to my neighbours that they should learn technical trades to improve our current situation, because we can count on sufficient support and additionally the government institutions are helping.
16. I have 3-400 clients: I always have something to do.
17. Other Kamayocs, technicians from higher education institutions, UNSAAC Animal health. It doesn't affect me because they are temporary.
18. None
19. Yes, strengthening of human capacities, local self confidence,, When we meet: events, fairs etc.
20. Yes
21. We have open door in any development institution – rural support Puno-Cusco Corridor, MASAL, SOLARIS, INIA, ITDG. They support us by financing our projects. CONACS and PERSA support us too.
22. With the Marangani municipality, in cold snaps they help us with animal feed.

5. Sabino Nina Mamani

Community: Pukio Pukio

District: Sicuani

Interviewer: Zenon

Comment: The Kamayoq is from the 4th group. He showed me his beans plot. He had experimented with the cultivation of 4 varieties, and from these he has got greatest production from the Ch'ique variety even despite excessive rains. We kept up our conversation around the farm. It gave me strength to finally reach the town of Sicuani by foot.

1. Due to my good performance in the activity: both livestock and agriculture. The community put me forward together with another person. However, my colleague was already a professional and for that reason he was rejected by ITDG and I carried on with the activity up to the end.

2. Theory was understandable, the practice was difficult initially but applying it to my own work, that made the practice easier
3. Livestock birthing, dog vaccination, to prevent contagious diseases.
4. Guinea pig rearing- due to the short training time.
5. I have hardly noted any difficulties, one the one hand I got to know a lot about guinea pig and sheep rearing due to exchange visits. In the Kayra faculty I have also learned how to do a thesis.
6. The course lacked Pharmacology. We should have received a course on AI. Refresher courses three times a year. Increase the training hours on everything to do with guinea pigs.
7. With practice, starting with my own animals, then on the animals of my relatives and then the wider community.
8. We didn't get a formal certificate from ITDG, the SENASA certificate allows me to go to Santa Barbara, but the ITDG one is not the same as the SENASA one.
9. It is large livestock, open wounds- that is complicated. The administration of natural medicines is also risky. I hardly ever do complicated jobs: once a horse that had been gored by a bull died.
10. Beans cultivation; comparative production of varieties. Diagonal direction of furrows in hillside agriculture. Nocturnal Qaracasaca trapping in potato plots.
11. Due to the results expressed by clients and properly/thoroughly checked by myself.
12. I cannot offer any service without trying it out myself for my own benefit..
13. I don't discriminate at all , everyone is equal, I only let people down for lack of time.
14. I don't attend those that don't ask for my service, maybe technicians from institutes of higher education have influenced them.
15. They can't be bothered, but I try to inspire the youth to follow my path, I even say to any of them that have some spare time to join me when I go out from the community. There is one youngster who wants to learn I am inspiring him more.
16. I have got a lot of clients all the time, especially when I go out from my own community. The only quiet times are when the animal technicians are around, not for long.
17. They come various times, only for a few days though. They are animal technicians, we overlap in animal health expertise. They run me down, they say that I don't have years of education like them, that is the reason I go out from the community. There the results of my advice and service are well received.
18. SENASA supports me.
19. Yes we collaborate. We unite to guarantee our service, exchange of information- knowledge, I lend out my instruments
20. Kamayoq Assoc
21. We are supported by institutions such as ITDG, CONACS, SENASA.
22. Municipalities and Regional Government – little. During election periods they offer us things but then in the participatory budget nothing much comes out in terms of good results.

6. Vicente Chatata

Community: Ccuyo

District: Marangani

Interviewer: Zenon

Comment: The interviewee was in the assembly when I arrived, but for the interview he received me courteously and the answers were rapid and spontaneous.

1. Proposed by community president and supported by the whole assembly
2. At the beginning I had difficulties but little by little I got on top of the theoretical part, in practical I didn't have any difficulties because I already knew how to administer injections to livestock. The way the courses were developed was very agreeable.
3. Injection against symptomatic carbuncle.

4. Everything to do with irrigation, but lately I am getting interested in it.
5. I had a few problems, because we were shown television programmes with the teacher explaining afterwards, I got confused, but later he went over it again.
6. Preparation of natural medicines for prevention of water contamination. Field, pasture preparation. Gene banks.
7. Dog vaccination and reduction of dog population. Before every household had 3 or more dogs. In potato cultivation, so that they didn't affect the production using plastic we trapped Quaracasaca and "Green Parrot" caterpillars.
8. Yes, it allows me to present my credentials to SENASA and that institution tested me and I got a certificate, now with that certificate I work as an animal health technician, I travel as far as Langui and Aledanyos. ITDG should certify us or make an agreement with La Raya farm, that would allow us to travel for work in other regions.
9. Open wounds in cattle, Tumours. But it is very risky, that is the reason why I hardly practice this.
10. Distribution of pits for guinea pig rearing. Selection and general handling of guinea pigs.
11. When people come back to me to request my services repeatedly. They even seek me out from Langui, Herqa., and they congratulate me for the service and the effective medication
12. Once I was sold medicines in Sicuani market, which proved very weak and was ineffective. But now I buy from SENASA and other known institutes. First I try them on my own livestock and only then on those of my clients, as a guarantee.
13. For me there are no favourites, I attend all equally, but if they don't look me out, I don't attend them either. Perhaps they don't trust my knowledge (I am talking about my own community people) Nevertheless in other places I attend all requests.
14. When they don't deliver after 3 times, otherwise they get used to it and that is not good.
15. Yes, but they don't keep it up as far as treatment of large livestock is concerned, now quite the opposite the women are learning on guinea pig rearing. Good for them the women are learning more, guinea pigs are a household activity and the women are getting work out of it.
16. My services are requested almost all year round, demand only dips a bit in April during harvest period.
17. Technicians from higher education institutes brought by people probably their friends but they hardly stay one day. We overlap on animal health and selective breeding. This doesn't affect me, I am not lacking work.
18. Before SENASA didn't trust now they have tested us and we are accepted I have various certificates which back up my work.
19. Yes, coordination on plans for vaccination campaigns, training on various themes relevant to our field work. When we have to present projects, and when they look for training/support through our association.
20. Yes I benefit, they hold events, exchange meetings on agriculture/livestock themes. It is the practical way to get support from institutions for our communal projects.
22. I benefit from SENASA certification. I get involved in district level participatory budgeting.

7. Sabino Huilca Wallipe

Community: Ch'apiChumo

District: Sicuani

Interviewer: Zenon

Comment: I searched for the interviewee in his cabin, his house and his grazing zone, but I found him at the ITDG office, he is a Kamayoq from the 6th group and is currently community president, perhaps for that reason he is the busiest Kamayoq.

1. Because of my status as leader, motivator
2. Everything was balanced, understandable
3. Animal health, livestock management, communal organisation.
4. Everything has been useful to me, nothing was in vain.
5. Easy to understand
6. Genetic improvement of livestock. Strengthening of communal/social organisation.
7. Putting things into practice: cultivation of improved pasture, learning from one another, consulting those that have experience on a theme.
8. Yes; SENASA. Benefit is demand: jobs. Kamayoqs should be certified by UNSAAC.
9. Animal health; monitoring of symptoms.
10. Sprinkler irrigation, animal shelters, communal organisation. Strengthening of human capacities.
11. Due to visits undertaken and trust invested by clients.
12. No, I give guaranteed services.
13. I serve all clients without distinction
14. The only reason I would not attend would be due to hitches.
15. Yes they have learned, on livestock management, administration of drugs and communal organisation. So much the better, that means there will be more development – welfare for my community
16. The tendency is upwards, now I don't have time to cover the demand, I don't perceive any downturns.
17. Yes, animal health. It doesn't affect me, it's a free market for the client and they can choose the technician they want.
18. I don't face any problem with anybody.
19. Of course, planning and coordination of our activities. We see each other when we are commonly employed in vaccination campaigns, every two to three months.
20. Yes
21. We are an officially recognised institution for that reason the work that we do has positive effects.
22. Few linkages with the govt. With other institutions yes: ITDG and SOLARIS.

8. Isidro Sonnco Quispe

Community: Pataqalasaya

District: Sicuani

Interviewer: Zenon

Comments: The Kamayoc interviewed belongs to two groups 6th and 7th, due to lack of interest of his community. He decided to do this with the support of neighbours\community. You can see that he has a really solid grasp on community realities and on the significance of his status as Kamayoq.

1. the community supported me, my enthusiasm
2. We did courses in the community, direct practice with the livestock from community enterprises and the theoretical back up, it is positive.
3. Technical assistance in animal health.
4. Everything is useful. More than that I want to learn more in other areas.
5. Yes, I had problems noting down information in audiovisual classes. Because the teacher explained at the same time as the DVD was going on that was confusing.
6. Training on beans\barley cultivation is lacking, we need to go into more depth on general livestock diagnosis.
7. I practice on my own animals. On my own plot I cultivate alfalfa and my community learns from me.
8. Yes, SENASA certificate is useful for jobs. Nobody questions my capacity, not even the technicians of the Vilcanota Institute. Kamayocs should be certified by municipalities or UNSAAC-IVTA.

9. Detection of alpaca colic and I apply enema, but I must know the stage of the illness as the treatment is very risky.
10. Control of Andean weevil. Preparation of animal feeds.
11. By visual checks, and the same clients recognize me and come back to me for further services.
12. Happily I have not had such a case, its another thing when the client buys medicines past the sell by date, that is not my business.
13. I don't discriminate, I attend all equally
14. Only when they are in arrears 4 or 5 times.
15. They have learned a lot that makes me happy. I congratulate them as I feel important because of the multiplier effect in human capacities, I am not egotistical.
16. The whole community knows my work as a Kamayoq and I have got what is required to give service, I don't notice any dips in demand.
17. Yes, the technicians from the Vilcanota Institute, we overlap in animal health and genetic improvement. They don't affect me at all, we are friends and all competition is healthy, the customer is always right.
18. With the agro livestock technicians' institute, they wanted for find problems at least with me personally, but they didn't find any proofs in the livestock and now I don't have problems with anyone.
19. Of course, I lend them whatever they need and they return it to me punctually, whenever necessary.
20. Yes
21. We have an organisation which is working. It allows us to put on events, we have our own place/office, we receive support according to our demand, through ITDG and similar organisations.
22. I receive medicines from SENASA through an agreement with ITDG at reasonable price and guarantees, direct from the distribution companies.

9. Mario Lopez Sonco

Community: Acco Acco Phallo

District: Sicuani

Interviewer: Yolanda Carazas

Comment: 3rd Group–Integrated. Has two years of secondary school study.

1. He was not chosen by the community, he volunteered himself.
2. The training was very practical around 70% with 30% theory. The practical classes were done in the field according to the theme: irrigation, horticulture, agro forestry. According to the theme, relevant communities were selected.
3. Above all animal health, administering of drugs, diagnosis of parasite illnesses, vaccination.
4. Horticulture – it is not possible to apply in highland communities above 3800 m.
5. It was difficult to follow the technical vocabulary used by professionals from other institutions. Chemical ingredients of agro veterinary products.
6. Training in methodologies of technical assistance, training on how to train communities, basic computer training to allow updating of knowledge.
7. Is always participating in training courses of ITDG, SENASA, SOLARIS, MINAG.
8. Yes, there is no benefit as it is only issued by ITDG, it would have greater validity if it were approved by a university, a technical institute or SENASA. If this were the situation then communities and institutions would accept me more easily and I would have more income.
9. Animal health – Extraction of placenta, stitching of wounds.
10. As a result of the training the farmers implemented sprinkler irrigation systems with their own approaches and materials. The Kamayoq implemented with hosepipe, the community members used PVC tubing.
11. It is effective when they replicate or practice in their fields or REBENYOS.

12. Yes, the medicine applied was expired, (40 sheep) Took the decision to give technical assistance almost free, or on credit so that they people would promote him and tall well of him again.
13. In general he attends all, he doesn't prioritise anybody in particular, the service is equal for all.
14. Not at the start, but from the time that I began working for other institutions (ITDG Puno-Cusco Corridor Project), I did have to say that it was not possible to attend them for lack of time.
15. At the start I was a bit reluctant, but then I stated enjoying, currently he offers technical assistance when the K is away from the community. I only work in my neighbourhood and within the community, on animal health.
16. At the start it was little, in 2003 the service tripled., and has maintained at that level up to today, he can serve 5 families a day according to the livestock calendar, for the two months after he has finished attending the whole community, he moves to other communities.
17. Yes, graduates of the institute (1 per community) and the Puno-Cusco promoters who do animal health activities. This affects the work he does as they visit the same clients and duplicate the visits.
18. No
19. Yes, on days of collective labour on livestock, sharing work and training materials on a sporadic basis.
20. Belongs to the Assoc
21. Permits participation in refresher courses, possibilities of work in other provinces, with the state institutions or NGOs that are authorised by the Assoc.
22. Only SENASA on Carbuncle vaccination campaigns. Puno-Cusco Corridor – he is an animal health service provider

10. Pedro Pablo Quinyones

Community: Cuchuma

District: San Pedro

Interviewer: Yolanda Carazas

Comment: First Group, 1997

1. He was active in the community, he had own initiative and will to participate in training courses. He proposed himself voluntarily.
2. It was more Practical
3. Animal Health, reforestation, irrigation design, gravity and sprinkler, distribution of ornamental plants, everything by demonstration, like greenhouses..
4. Everything learned in the training is useful, but it is necessary to specialise more on the irrigation them, we have not garnered much. There is enough water in this area and for that reason there is not much interest in conservation techniques.
5. Due to my education level, 5th year of primary school, he had difficulty grasping the subject well. In the training there were new words that he didn't understand, and some themes which he grasped very little. The training was in both English and Quechua.
6. Small livestock husbandry, sprinkler irrigation.
7. Consulting with agro veterinarians, borrowing leaflets on cattle diseases and due to my own initiative to learn more and keep up to date as the veterinary products change and appear with new names.
8. Yes as a livestock Kamayoc. On showing the certificate to the communities where I work (Cocha) the believe that I am a K. But the certification should be done jointly with SENASA to have greater legitimacy.
9. The sprinkler irrigation and reforestation – I am not very competent.
10. The communities of Cuchuma by their own initiative, did terracing and soil conservation.

11. When they improve their fields, and their crops and implement the knowledge that I gave them, that shows that they have learned and they are signs that make me feel contented and proud.
12. No everything was useful, everything worked.
13. The service that I give is primarily for relatives, and also the poorest as they need it and I am committed to helping them, once a year I provide free medicine to them to give them extra support.
14. No, all the time I provide the service, except to better off clients who don't want to pay for medicines, but the technical assistance is continuous.
15. As they don't need me any more, I don't offer them the service any more, I don't visit them. In Cuchuma there are around 4 families that don't need my service and in Cocha only one that doesn't need my service any more.
16. At the start it was little, little by little I went serving among them and the word went around on the quality of the work I was doing, at first it had ten families that I attended and now it is the whole community.
17. Yes, there are 2 Heifer promoters on animal health, they don't affect my work. There is overlap on the animal health speciality.
18. No, there are no legal difficulties
19. Yes, sometimes we work together, there are activities that require the participation of 2 Kamayoq, like castration of donkeys, horses and pigs.
20. I used to belong to the Assoc but not any more, I left for lack of time.
21. No, all my work is in the community , I don't ever serve with institutions.

11. Benancio Lopez Saraya

Community: Acco Acco Phallo

District: Sicuani

Interviewer: Yolanda Carazas

Comment: What is he depending upon in order to be able to start working in technical assistance? Advice, orientation, accompaniment in the first phase of the service, from ITDG. Also Min Ag or SENASA certificate. He requests that there should be an evaluation to find out how many K are implementing and working to apply what they know.

1. For being a leader; as he have experience in agricultural work, worked partly growing native potatoes. Was selected by the community assembly.
2. It was 50/50, the practical part was done in the community under the modality of internship, 3 times a month from September to September.
3. Only at the level of community assemblies has he given out information, to date he has not done technical assistance services, he lack guidance, he doesn't know how to do it, his fellow farmers don't value that, He doesn't advise anybody.
4. Everything is useful
5. The learning process was not difficult because it is was always directly related to agricultural activities. He only ever reached second year of primary school.
6. They did not go into the theme of commercialisation or new technologies. For higher production, growing of wider varieties of native potatoes, biodiversity.
7. I don't offer technical assistance
8. Yes, he still has no benefits, for going to other communities it would give me greater credibility, he could also act as a facilitator. It would be very important for the certificate to be signed by Min of Agr and SENASA
9. He is not active, nevertheless at the level of his relatives he is applying everything he learned, he currently has over 100 varieties of native potato. The most complex aspect is diagnosis of potato diseases and pests.
10. No response
11. N/A
12. N/A
13. N/A
14. N/A

15. N/A
16. N/A
17. There are no promoters trained by other institutions, only Kamayoq
18. Does not practice.
19. Didn't get the opportunity but would be willing
20. Belongs for Committee of Native Potato Producers, Canchis. ITDG has promoted the foundation of this new organisation, in 12 communities in the intervention area. Benefits at the level of commercialisation.
21. No
22. No

12. Albino Cahuaya Quispe

Community: Cuchuma

District: San Pedro

Interviewer: Yolanda Carazas

Comment: Non practicing

1. He used to participate a lot in trainings. He had the personal motivation. He was selected by the community
2. It was more practical, it was held at mills, in the fields, in the tanneries, it was very practical.
3. Diagnosis of crop diseases: beans, maize, potatoes. Agro-processing. Beef fattening. Preparation of ENO. Gravity irrigation.
4. Everything was useful.
5. Calculation of square meter-age of plots, arithmetic, dosage measurement, technical names of diseases. In the countryside they are not used to technical words. Got to second year of secondary school.
6. Beef fattening, Silage making, Diagnosis of internal diseases of cattle.
7. He is an animal health promoter, is a member of the animal health promoters society. Gets income and refresher training from Heifer, Participates in courses organised by the San Pedro Municipality.
8. Did not receive ITDG certificate. Did not attend the last module of the training.
9. Animal health – application of drugs intravenously.
10. No
11. I find out if the families apply what I tell them, I see if the calves improve.
12. No that would be a fraud.
13. I prioritise the most needy, because that is part of the commitment to the community, if the don't have money to pay he requests them to work in his fields, or pay in kind with agricultural produce.
14. Yes, when the request is beyond his technical capacity, complex things like surgery. Anything that is within his capability he always does it.
15. It is a source of pride and very good, my purpose is that they should learn and that helps community development a lot.
16. At the start he didn't have clients, little by little it started going up after further training and refresher courses. Currently the number is the same, since 2006. The agroveterinary agents compete with us to sell their products.
17. No, there is similarity in animal health, there is no competition with other promoters, there is coordination and mutual support to do the work..
18. No, but the agroveterinary agents spread negative word about us, they try to question our technical assistance work, that limits our work.
19. There is a lot of support, doing vaccinations, exchange of knowledge, and advice on complex interventions (intravenous)
20. Yes, District Animal Health Assoc.
21. Implementation with health equipment. Agroveter products – for vaccination and cattle diseases, permanent training, visits.
22. No only at community level. Only in SENASA campaigns.

13. Felicitas Quispe Pucho

Community: Chari

District: Checacupe

Interviewer: Yolanda Carazas

Comment:

1. Because the community believes in her, she was always participative, she had the curiosity to know more and get trained
2. The training was 70% practical and 30% theoretical. More is learned through the practical than the theoretical.
3. She did one year of service in her community, and then started to go out to other communities and provinces on a part time basis, three times a month. Preparation of natural medicine for control of *fresciola hepatica*. Yoghurt and butter making. Animal health: vaccination against symptomatic carbuncle.
4. Everything was useful.
5. Didn't have any difficulties learning, because she completed secondary school, that made learning easier.
6. The programme was not complete: missing elements eg intravenous vaccination, pig castration.
7. Is constantly participating in training courses on animal health offered by institutions and companies.
8. Yes, she has higher income from technical assistance work. In the community her work is often paid in kind, (potatoes, beans, cheese) One oral dose of herbal product costs 1.5 sols, if it is a pharmaceutical (triciavendazol) it costs 5 sols and with prosentel it is 3 sols. The certificate, to have greater validity, should be signed by the Ministry or SENASA.
9. Castration of pigs and intravenous vaccination are quite complicated.
10. Cure for guinea pig lice with OLLIN (Quechincho) Treatment of ticks in cattle by use of TREWI (grains boiled and then the water applied)
11. Due to the effectiveness of the work, repeated requests from same clients.
12. Yes, at first when she started the work, above all when she gave talks, but didn't do the practice. To overcome this she tried to get better informed, read more and look for information.
13. She attends the poorest, they don't pay with money but produce. She prioritises that sector because she identifies with them and feels compassion for them.
14. A few times she was unable to attend due to ill health in the family, otherwise attends all who request the service.
15. I invite them to participate as assistants or helpers in the technical assistance work.
16. The tendency is growing, at the start she had few clients and now the demand has grown so much that she doesn't have enough time to attend all the demand. She has a lots of offers of temporary jobs on technical assistance from municipalities. Initially she attended 15 persons, in the period 2005 to now she has attended an average of 2,300 families.
17. Yes there are other animal health promoters but their work is not good, they kid people by applying expired drugs which don't get the desired result and the community does not trust them. There is overlap on the administration of drugs but it does not affect her, the scope for this activity is very wide.
18. In legal terms there are no barriers, SENASA does prohibit vaccination by other promoters, nevertheless Kamayoqs are permitted to do it, they are supported and authorised so that they can continue to carry out technical assistance. There is an MoU between SENASA and ITDG.
19. Yes, I teach new Kamayoqs, I help them without asking anything in return. I motivate them to participate as helpers and learn the service practice.
20. Yes
21. Coordination with SENASA (letters of recommendation and certificates)
Possibilities of training in higher level organisations (macro-regional and MASAL)

Specialities and exposure visits. Carrying out activities of hosting tourists, the Assoc receives resources, net income in 2007, 4000 sols. On vaccination campaigns each vaccination is charged at 1.5, the cost to us is 0.8 and the margin is 0.7. Daily it is possible to do 120 vaccinations. The campaign lasts three months and during that time Kamayoqs are offered work for 6 days.

22. The agro-veterinary companies sometimes call the Kamayoqs for a training and from that they promote and sell their chemical products. Relations with municipalities – service contracts. SENASA

14. Solomon Laime Corahua

Community: Pampa Ccalasaya

District: Sicuani

Interviewer: Romulo

Comment

1. I was selected through an examination set by ITDG. The community elected me.
2. Yes, first we did theory at the ITDG offices and then other times they were held in the field. The practical sessions were mainly done in the field,
- 3 In the Assembly we let everyone know about our training. Then I programmed a visit to each household explaining the importance of animal husbandry, moreover everyone in the community requests my visit,
4. No, I continue to practice everything that I was trained, I am continuing with training activities.
5. Yes I did have difficulties where the facilitators often did not make themselves understood, they gave the material in Spanish and with terminology.
6. Yes there was a gap, we require training on processing of milk into dairy products.
7. Yes, a great deal, it has improved as I have strengthened by capacity through trainings with other institutions and I have even been on exposure visits to Bolivia.
8. Yes, the certificate is important as it allows us to work for other institutions.
9. Preparation of foodstuffs for cattle fattening it has many ingredients, silage, and nutritional blocks
10. Human medicines – rubs made from eucalyptus ointment. Animal medicines for *fasciola hepatica*. Ingredients: *Tarwi, roco, ajo anachancaray*. Every ingredient should be weighed and measured, each one should be boiled and then mixed and fermented, And this should be given to the animals to drink according to their weight.
11. In the laboratory, we experimented for many years on medicinal plants. We carried out treatment on 2 animals, one with medicinal plants and the other with veterinary products. The results of the experiments turned out well.
12. No
13. All of the Pampacalalaya community. Some clients in other communities and districts, tours in regions like Puno, Cajamarca, Cusco.
14. I always attend, 24 hours.
15. Yes, we do teaching and capacity building for people visiting from other places,. We also train other Kamayoqs at ITDG. Knowledge sharing is good, as they will learn good animal care.
- 16 They are very many; I have clients that come from other places.
- 17 They come from other places, veterinarians and technicians, they cheat the people by charging excessively, 12-15 sols, whilst I practice practical solutions, and with charges adjusted to the ability to pay of the farmers.
- 18 There is no problem, on the contrary SENASA requests my services.
- 19 I collaborate with other Ks in vaccination campaigns in Checachupe and Marangani, two years running.
- 20 Yes I am a member of the Assoc. Toribio Quispe Jallo
21. We get exposure visits and we travel for jobs when our services are requested.
- 22, Yes for example Caritas and Yanaoca municipality.

15. Maria Huaman Quispe

Community: Pampa Ccalasaya

District: Sicuani

Interviewer: Romulo

Comment.

1. We were nominated by the community who had seen my work with natural medicine and that is why they elected me.
2. Yes there was a balance between theory and practice. Where I learned most was in the practical sessions which were held in the field.
3. I transmit my knowledge to all the farmers, men and women who come from different communities, districts and provinces to seek out my services
4. Follow up was lacking in the work and training for animal health activities.
5. I had great difficulties with the theoretical part because I left school after primary and also I did not understand Spanish. I still face this difficulty. I didn't understand the trainer who taught us using terms I didn't know.
6. There was no gap as I was taught all that I wanted to learn
7. I have improved my knowledge whereby I share it with my children. Previously I was a silent woman, I feared expressing myself and trembled with fear. Now I have a radio programme in which I spread the word on the work of the Kamayoq and on technological advances
8. Yes I have the certification as a Kamayoq which benefits in my work with other institutions like municipalities, NGOs, private institutions like Corredor Puno-Cusco, Caritas
- 9 The most complex procedure is dying with natural dyes which requires a great deal of patience and skill
10. Improvement in the infrastructure for my cattle and weaving and dying techniques. I discovered through practice and capacity building from technicians, that to die we add iron sulphate, salt and lemon and with this technique colour is not lost and it is possible to combine colours.
11. I got recognized for good results by those who currently seek my services.
12. No
- 13 My clients are the communities of San Pedro, AqueaCcocha, Pampacolosa, Quewa, now I do trainings in communities in Puno, Espinar, Abancay, and Canas. I did a tour around these places where the EU hired me as a facilitator.
14. I have never turned anybody down, I don't like to say no. I like providing services.
15. I always show the persons who seek out my services how to do things, they will still need my support, what is more I want them to learn how to look after their animals, make yoghurt, make food and dishes typical of the region and how to receive tourists. So that they don't live in poverty any more.
16. Service expanding due to demand from institutions mentioned.
17. Yes, they are people I have trained, now they work with these activities, there are also technical college graduates. These persons affect my work as they offer the same services as me.
18. No
19. Yes, I do collaborate with other Ks in various activities, in campaigns for vaccination and treatment, trainings and other activities according to what is required, can be once or twice a year.
20. Yes I am a member of the Assoc.
21. As I belong to the Assoc I am guaranteed the opportunity to go out and work in other places and also to go on exposure visits and receive visitors and tourists.
22. I collaborate all the time with MASAL, ITDG, Corridor C-P, Municipalities and Caritas.

16. Mauro Chalco Balladares

Community: SunccoChuma

District: Sicuani

Interviewer: Romulo

Comment: 1997 First Group

1. He was elected to participate in the course, I that year I was president of the community, 1997-8.
2. Yes we were given lectures for theoretical training. In 1999 I received further training on soil conservation.
3. Soil conservation, management of gravity irrigation systems.
4. No, everything was useful for me.
5. Yes, on natural medicine, pests and diseases in agriculture and livestock. We were did not have sufficient education to be able to grasp it.
6. No
7. I have improved my knowledge through experience exchanges, and have got training of 5 subjects:
Soil conservation
Small livestock
Horticulture
Natural medicines
Cattle– health and husbandry
Irrigation management.
I have experience from Andahuaylas where I trained communities on design of irrigation plots and canals.
Classification of seeds and planting in furrows.
8. Yes, it has not been of much use, I have not had the opportunity approach institutions for jobs.
9. Management of canal irrigation, you have to calculate the quantity of water and the gradient.
10. They practiced things on their plots, especially horticulture where they achieved good production.
11. They came here to find out about the importance of horticulture management.
12. No
13. Relatives, they took and interests, whilst the community did not, moreover the communities are not organised.
14. I don't provide services any more because my children are in higher education and I dedicate my time to them. But I do apply my knowledge in my farming activities. Now and again I do provide support to community members.
15. Yes, promoters came out that bettered me.
16. I don remember any more, there were many as I went to work in more than 10 communities in Andahuay that is where I did training.
17. Yes there are others, like the same farmers who take an interest in applying new practices.
18. No
19. We support each other on jobs such as training.
20. No I haven't got time and I don't know anything about the existence of a Kamayoq organisation.

17. Julian Ccala Corahua

Community: SunccoChuma

District: Sicuani

Interviewer: Romulo

1. The community saw our responsibility and our accomplishments in our activities.
2. Yes, they gave us the training in theory on pasture improvement, cattle, breeding of small livestock. And then we did the practice in the field.
Between the kamayoq we visited each others' zones to see the progress.
3. Livestock: fattening, health, pasture improvement.
4. Everything is useful and I like it.
5. Of course, specific technical terms.

6. No
7. Good, sharing my knowledge, currently every morning we go out to the communities and our shift lasts for 2 or 3 hours and we attend five communities. Lari. PampCcalasaya, Waraquani, Mayopata and Singunyo. We are trained to be able to give service 24 hours, in case of emergencies we attend immediately.
8. Yes, it is a document that authorise me to do this work.
9. The adequate handling of animal health requires care and a lot of practice.
- 10.
11. Livestock management, fattening, preparation of milk products, improved pastures, small livestock.
12. No
13. Mostly I have clients in other communities. In my community they don't accept our services due to lack of trust, they think they already know everything.
14. No, I always attend immediately when there is an emergency.
15. No, but I like to transmit and share my knowledge so that they improve their livestock and their household economy.
16. I attend about 200 families.
17. There are other veterinary technicians like Wily the vet and technicians from the Vilcanota Institute. This doesn't affect me as I go out to other communities.
- 18 No
19. Yes we help each other, we practice *ayni* with veterinary products, and we help each other, on many occasions we share contracts.
20. I belonged before, but they charged me a lot of fees and fines, and we cannot attend as we live far away.
21. There were benefits, mainly access to training courses.
22. No

18. Victoriano Huerman Huilla

Community: Puma Orqa

District: Tinta

Interviewer: Romulo

Comment

1. In my community there were no trained people. The community elected us.
2. Yes, mainly practicals with little theory. We didn't have enough basic level to learn theory, only the practice.
3. We have transmitted everything we have learned in the training on health of large and small livestock.
4. I always apply everything I learned it is always useful
5. Yes, bee keeping.
6. Yes, I had difficulties in learning, I was afraid to apply injections to animals.
7. Yes, I have improved my knowledge attending training courses and this have helped me to produce more.
8. Yes I have got an accreditation, a document that allows me to apply for contract jobs and present myself to other institutions. Certificates are important they benefit us a lot.
9. Animal health is the most complex, these days the diseases are more unknown and difficult to treat.
10. At the start they didn't accept me as a Kamayoq they thought you didn't really know, with the passing of the years they started to request my service, they saw the results I had got and now I do services every morning in the community.
11. With experience I was able to realise what the results were when the animals were treated. Before the guinea pigs died, now we have learned how to give treatments and now there is no animal mortality.
Also my community colleagues told me that my services have had good results with their animals and they now prefer that I do all the treatments.
- 12 No
- 13 My priority clients are communities of Machamarqua, Sulka and other communities in Tinta.

14. No I always help with my service to whoever requests it.
15. Yes, I teach how to detect symptoms of animal illnesses. Benicio Mamani learned from me – now he treats his own animals.
I have decided to teach any person that wants to learn
16. I have attended 60% of the population of Machaqmarca
17. Yes, but now they rarely come to there places, they stay around San Pedro/Sicuaní
We overlap in services but it doesn't affect me at all.
18. No
19. Yes, we always work together in vaccination and trips to other communities.
20. I don't belong. It is difficult for me due to the distance, when there are meetings I cannot attend regularly and I get loaded up with fines.

19. Emilia Apeza Launa

Community: Chetuyoc

District: Managani

Interviewer: Romulo

Comment

1. Because I was enterprising and the community assemble selected me for my responsibility and activism.
2. Yes, but it was more practical as we went out to the communities and that helped us a lot.
3. The animal health part. Cattle / sheep.
4. All the knowledge has been useful and nothing in vain, it is always useful.
5. Yes, injections for cattle, and the scientific names of diseases, the confusion between *sarquisistoxis* and *false triquina*
6. Training was lacking on preparation of balanced feeds for cattle and guinea pigs.
7. Yes I have improved my animals – cattle, guinea pigs and birds. Before I didn't know to vaccinate every three months. Now they stay healthy and I get good results.
- 8 Yes
It serves when put myself for jobs with institutions, for offering services in other communities. Maybe I can open a shop with feeds and medicines for large and small livestock, and offer services when I can.
9. The most difficult thin is intravenous injection as it is difficult to place correctly.
10. Yes, I learned how to prepare bran with sheep/cow blood as a feed.
Cures: For *qarachi* (sarna) diseases I know how to use sulphur with pig fat and apply to the infected part of the animal.
11. In case of distended abdomen in cattle I have succeeded in curing that with a hosepipe and then I take the gas out.
It was by accident when my cattle had distension and were about to die and I inserted the pipe in the mouth above the tongue and all the air and gas came out. I have only shared this technique with one other farmer when he had the same problem and he succeeded in saving them.
12. No
13. I support and provide services for my friends and relatives. Those that have money request the services of specialist technicians who are more qualified. Whereas us Kamayoq are not trusted so much. In simple and practical things they do request our service. Friends and relatives are informed about my work and know that I am trained for these tasks.
14. Never
15. Yes, because I they took an interest and some things are simple to apply. I feel good about my friend learning and it makes me happy.
- 16 I have lent my services to the community where I vaccinate their animals (29) and the cattle of the farming families.
17. There are technician graduates from the technical college, there are vets from Puno. We don't overlap with them, they appear when they are called and then they go, moreover they are egotistical and don't know how to explain anything. It does affect me,

the farmers give importance to these professionals and not to us and they only request simple things from us.

The community drug store that ITDG gave us is in the community hall, now only the vets and technicians have access to it and the Kamayocs do not.

18. Yes it could be because we are not well trained. The professionals limit our access to government work.

19. Yes we collaborate, we work together on vaccination and treatment campaigns.

Fever/carbuncle

20. I do belong to the Assoc. I have not joined this year due to travel but I plan to rejoin.

21. Group work, brokering relations with institutions.

22. No

20. German Arapa Quisini

Community: Sullca

District: Marangani

Interviewer: Romulo

1 The general assembly nominated me to get the training at ITDG. The community has seen my attitude and activity and I was very dedicated to animal rearing.

2. Yes, the practical side interested me more as we practiced directly on the animals, where we were shown the diseases and handling of animals.

3. I have shared my knowledge on animal health, installation of shelters and guinea pig sheds.

4. I am applying most of what I learned, I don't have any difficulty.

5. At the start I thought it was difficult, but then I started grasping things. The theory and the practice did not coincide. I couldn't understand the scientific terms.

6. I didn't find any gaps

7. I have improved a great deal, firstly I started to change creole cattle for improved cattle and now I have the chance to get income. Seeing the changes I have been making, my community colleagues started to imitate me and change their cattle. I give technical assistance in the community. The community collectively has 1000 alpacas and I provide the necessary technical assistance.

8. Yes, it is a benefit that allows me to work with other communities and institutions.

9. I don't do any

10. Beef fattening, to fatten them it is necessary to treat them and then keep them in stables.

11. I have cured cattle that were sick and thin and full of parasites. I have succeeded in recovering the health of the animals, that is where the community started having confidence in me.

12. Yes, I bought a medicine that did not work, it was cheap and it worked out badly. Since that time I buy quality products and I consult with a vet who shows me the quality medicines.

13. Sulca community and sometimes I go to other communities, most often Chilliwa. I provide services to relatives to ensure they have good quality livestock.

14. Yes, when the farmer bring another technician from Sicuani, Marangani, and he does a wrong treatment and then they come looking for us but we don't accept the task, because sometimes the animal will die and they make us look bad

15. Yes I showed a relative how to administer drugs orally and by injection. He bought his own instruments. Now he treats his own animals.

16. After graduating from the K school I have supported and given services to all the community members. Up til now I have an average of 100 clients.

In the dry season there is a lot of demand for treatment, there are three peak months for treatment, May, August and November.

17. Yes there is another Kamayoc from the 6th Group, he competes with me and tries to dent my reputation, he considers himself to be a leader and he charges little. The other technician managed to kill 45 alpacas belonging to the community.

18. No

19. Yes, I support my friend Remigio Rodrigues, he is a K too. We do alpaca treatment, 446 of them. In 2007 we distributed vitamins in the municipality – due to the freezing weather.

20. No, I used to belong but not any more. This is because they charged me the heavy sum of 80-100 sols, since that time I didn't belong, moreover I am constantly active due to the work.

The benefit was working with SENASA on campaigns: 2006.

21. No, only once I went of a SENASA campaign.

21. Fernando Mesa Charca

Community: Puma Orqa

District: Tinta

Interviewer: Romulo

Comment

1. Previously I worked as a promoter for SENASA
2. Yes, he always applies both, classes on diseases, theory as well as practice.
3. The farmers here don't grasp the training because they don't understand me. I only give service to the community in the three neighbourhoods, Puma Aqua, Sullia
4. The training is always useful, everything they taught me in the courses I have attended
5. I dint have any problems with learning
6. No I could learn livestock management
7. I apply the knowledge I gained in the training , in adequate treatment of animals
8. Yes it is useful for the work and to show to clients when I apply for short term jobs with institutions working on animal health, such as SENASA
9. I always try to work according to the treatment that the animal requires
10. The farmers always have confidence in treatment of illnesses, pneumonia, carbuncle, mastitis. I treat these with antibiotics and anti-inflammatories. In the case of tuberculosis I treat with vitamins AB C and D. My clients already know my work and for that reason they request my services.
11. On seeing the sick animal I try to diagnose to be able to carry out the treatment. Also some animals get sick for lack of calcium. It is for that reason that the newborn animals cannot grow. For that reason we fortify with calcium and vitamins..
12. No, I buy medicines with expiry dates.
13. My clients are 50% of the community.
14. No I always try to attend my clients and for that reason I have attended animals with strange diseases. For example treatment for material/mucus in the lungs. I have succeeded in doing an adequate treatment based on natural medicines. I always give my service, with the interested person I always try to coordinate and that they give me an exact time to go and offer the service. If I turned them down they would not come to me any more and I would lose face in the community.
15. Yes it has occurred to me, I explain a treatment, the dosage, to be administered orally or by injection, balanced feeding etc. I have taught these things, some have learned and don't come looking for me. Only applies these things to own cattle, though.
16. I have attended around 700 families, I have never had ups and downs I have always worked in the community..
17. Yes there are other service providers that come from San Pedro, Sicuani and San Pedro, who offer their services at high prices. For example they charge 6 sols per dose whilst I only charge what the farmer can afford,, around 3.5 sols per dose depending on the quality of the medicine. They are a variety of technicians and promoters, They don't affect me at all- they are professionals that know their

profession whilst I and trained to do lesser activities like vaccines, dosages and feeding.

18. No I have only had problems with friends from SENASA and ITDG.
19. Yes, we support each other to maintain equality and reciprocity.
20. I am not a member of the Assoc, this year I was president of the community and so I have not registered and anyway I don't want to belong.
21. I don't attend
22. Yes, when they come I always collaborate

22. Juana Chatata Hanco

Community: Senga Chetuyoc

District: Sicuani

Interviewer: Romulo

Comment:

1. Qualified community member, responsible, support for institutions, support to farmers, I like to participate and be active.
2. Yes, but I apply the practical part, and I teach the practical part more.
3. Animal health, guinea pig rearing. Now I am working with 5 breeding modules of guinea pigs and I give them out to the community and every family now has them and I give advice and guidelines. I explain the process of breeding and selection.
4. Alpacas are not my interest and I don't practice alpaca husbandry as most of us farmers don't have alpacas.
5. Of course. I had difficulties – things I couldn't understand, for example in Kallotaca there are other words and names for things which I didn't know.
6. The course was very general and we wanted to specialise in order to learn more.
7. Before I lived without knowledge and we had very traditional rearing, which was all in the kitchen. Now instead we have trained and have motivation to do selective breeding, and we know how to put in place the relevant infrastructure.
8. Yes, at the moment there are no benefits. I only allows me to participate in vaccination campaigns promoted by SENASA. In some way it helps to be certified but it is the knowledge itself which helps much more. The certificates should be validated by the government or education sector. The farmers don't trust us as we don't have an official certificate.
9. Animal health for cattle, I have not given service on cattle. It requires more strength, I am afraid and it is dangerous for women.
10. Guinea pig manure – I demonstrate to other farmers. Treatment of dogs. Employment of herbal medicines to some livestock, with *alcachofa ajo*, *achoncacaray rocota* and *tarwi*. These plants are boiled and then they pass to a process of marination for 10 days.
11. In the excrement of livestock and dogs, one check for worms and larvae. Exact dosages- that is what we apply to the animals and that is why we are trusted by the farmers.
12. No
13. My priority clients are women who are more dedicated to household tasks. Men are not to be found in the house. Also family members
14. No, quite the contrary, I am available for clients and I never turn them down, that would cause the loss of trust and loss of clients.
15. Yes, I taught one farmer from the Oqe Chupa neighbourhood on guinea pig health and selective breeding and now he doesn't seek my support. Sometime I have reservations about having taught them but at the same time I am proud. Moreover they do not start to offer services like me it is just for themselves.
16. Livestock – around 50% of my community. Guinea pigs, - 30 families.
17. Yes Sicuani technical graduates, students from the technical college, a zoo-technician that lives in the community. They come more to deal with cattle. It does affect my work, the technicians consider us less capable than them.

18. No
19. Yes, I request support from Sulka Fernando and I have requested support to assess guinea pig quality before handing them over to another family. That was in 2007.
20. Member of Assoc since 2003
21. They give work to other members, I haven't benefited myself but I participate in the organisation of partnerships and MoUs with other institutions.
22. No

23. Teresa Manani Condori

Community: HanncoHocca

District: Manangani

Interviewer: Romulo

Comment: Trained in 2003

1. They saw that I was an active community member, and I was enthusiastic, so they proposed me.
2. It was mainly practical with little theory
3. I gave information to the community, to those interested I offered capacity building, others were not interested
4. No
5. No
6. None
7. I put all my knowledge from the training into practice, we were more interested for ourselves.
8. Yes, generally I gave not found any benefit. I have only gone out once to provide a service, I work in the town of Andhuaylas with an NGO, where we made dairy products, and I went as a facilitator.
9. The most difficult procedures are guinea pig breeding and animal health
10. I don't offer services
11. I give training to those that ask
12. Not appropriate
13. Family members, because they trust me more. Some community members are interested to get training on milk and yoghurt processing
14. I always give a service if I am asked.
15. When they learn from me they don't come back to me and they create competition
16. When I had just graduated from the Kamayoq school, everyone requested me, but nowadays they don't. What is more I have difficulties getting hold of information and everything has changed. We need refresher training with new knowledge as things are changing more all the time.

Section 17- 22 Not completed.

24. Epifanio Condori Huaracha

Community: Hanco Hocca

District: Marangani

Interview Romulo

1. I love alpaca breeding and I am the only Kamayoq specialised in alpaca breeding.
2. Yes, they trained me with field visits and we put into practice what we had learned. We went out in groups of 7 to put the theory into practice
3. In the assembly I commented to my fellow community members about genetics. They didn't pay any attention to me and for that reason I only work with my own alpacas. They think that I am taking advantage of the community somehow and they don't know how to value me even though I have been president of the

livestock committee where I have left quality animals registered. For all of this I lost the will to do the genetic improvement service.

4. No all the courses are always helping me.
5. Yes the trainers taught very fast and many times we didn't understand and for that reason we requested to the trainer to repeat the class section of the course.
6. The gap in the training was around the rapid technological change in medicines and they are changing all the time, for that reason we request refresher courses on latest medicines
7. Previously I was a builder and now I am full time with my animals, every morning I treat my animals and I also do the same for my neighbours.
8. Yes, it enables me to go to other communities and show my training, so that I can start offering services to them.
9. Knowing well the medicines, everything to do with alpaca, cow and sheep diseases. I wish we could get refresher courses on cattle and sheep breeding.
10. I have found a new technique in animal health whereby I combine natural and pharmaceutical medicines, like the *Sasahui ajingo* which is boiled.
11. I am constantly treating my animals and so that I where I see the
12. No answer
13. The community, other communities, and family members. Yes I do animal health services for my neighbours, 1 sol per sheep and 5 soles per cow, including medicine. Constant treatment.
14. Yes, it is for lack of medicines and also when I don't have time as I am doing contract work. I decide to generate income that enables me to buy the medicines.
15. No answer
16. It is the community that seeks me out on a monthly basis to give assistance/advice on livestock health, I don't receive any monetary incentive for advice. The community members always look for me and always pay me for the inputs.
17. There are hardly any other animal health technicians, the few that there are work with cheap, low quality products, seeing this the herders come to me instead. In this community they are Tomas Soto, Vicente Chatata. I don't overlap much with them at all because they work with bad quality products, that is what I am told. It doesn't affect me at all.
18. No
19. Yes I do collaborate, for example I go to Kayqo community and support the other Ks with animal health work.
20. I know the organisation but have not joined even though I have been urged to do so. I am rarely to be found in my community and for that reason I would miss most of the meetings and for that they would make me pay fines.
21. N/A
22. Nothing.

25. Eduardo Castelo Ramos

Community: Hanco Hocca

Dsitric: Marangani

Interviewer Romulo

1. He was active in alpaca work. He worked on fattening. He was known for delivering.
2. Yes, It was mainly theoretical and little practice.
3. In the community assembly I gave a report on fattening and the members made fun of me and didn't pay any attention. I give technical assistance to all community members, for every vaccination they give me 6 sols but sometimes they don't pay me
4. Everything is good for me. Everything I learned I have put into practice – I rear guinea pigs, sheep, alpacas, milking cows, and beef fattening.

5. I have never had the opportunity to take courses and that made it difficult for me but I have succeeded in learning. Theory was difficult as I only made it to fifth year of primary school. The course content was with scientific terminology.
6. I wanted to go deeper on alpaca, sheep and cattle rearing. The course menu was very generic, too generic for my interest
8. No, but if I had the certificate I could get jobs, I believe I didn't get enough marks and that is why I didn't get the certificate.
9. AI. I need to deepen my knowledge on calculating the heat period of cattle and sheep.
10. I haven't succeeded
11. I got comments when I applied the medicines for beef fattening cattle and the results were good. Seeing these results, the clients congratulated me. That motivates me more to implement, but I have economic problems
12. I have never had bad results. The problem is that when I offer services I don't get paid in a timely fashion.
13. I give service to my relatives. They know my capacities, so they look me out to apply medicines and advice on feeding for beef fattening. They have the medicines and I give service with my tools and equipment, and the payment is voluntary and sometimes they don't pay me as they are my relatives. I also give advice and technical assistance to well off livestock owners and they habitually don't pay.
14. No I always give technical assistance, and it is because I enjoy it as I have been trained.
15. I have taught my brother in law, he only practices on his own animals, he doesn't try to assist others.
16. The number of clients I have had is around 20-30. In this Marangani area there are graduates from technical institutes in Sicuani, Cusco and Puno, they have displaced me as they offer free technical assistance and this undermines us as Kamayoc
17. Yes the competitors exist, the technicians who come from other places and charge little.
18. There are no impediments.
19. Yes, I had a colleague Teresa Manani, together we vaccinated more that 600 alpacas, At Qarachi en the Caramari locality, that was in 2003. That was the only time that we did it together.
20. I am recently thinking of joining the guinea pig assoc. I belong to the Assoc of Kamayoc which has been in existence since 2000.
21. Nothing
22. No

26. Freddy Tapara Quispe

Community: Chara

District: San Pablo

Interviewer: Yolanda

Comment: Freddy suggests refresher courses to be organised by ITDG and public institutions. It is not possible to do technical assistance in crop extension because the service is very low income, livestock is more profitable. Since F became a Kamayoc his life changed out of all recognition. It has improved dramatically.

1. He was elected in the assembly for being responsible and having taken on various leadership roles in the community. (Secretary, Lieutenant Governor, Water President, President Peasant Self Defence.
2. It was practical, the school worked in different communities once a week throughout 1 year..
3. Animal health: technical advice, diagnosis of livestock diseases, prevention and treatment of diseases.
4. Everything was useful and beneficial

5. No, but he had difficulties once at the beginning when he started practicing technical assistance. He accidentally killed 4 cows by drugs overdose.
6. Parasite diseases and infectious diseases in cattle. Visits to research stations.
7. Consultation of information materials, bibliography, training courses and participation as assistant to veterinarian.
8. Yes, it served for applications for temporary work with NGOs and public sector. The certification should be official – university/institute. Graduates from technical institutes discriminate against us for not having an official certificate.
9. Rectal palpation – pre and post natal. Infectious diseases, diagnosis and treatment. Handling of veterinary products (drugs)
10. No
11. When those trained are able to apply what they have learned. Eg Identification of symptoms.
12. Overdose of drugs to treat parasites (4 animals died). As a result of this experience he got himself much better prepared.
13. He attends all clients equally, if anyone doesn't have cash he gives credit and accepts payment in kind: agricultural produce or sheep.
14. No, every request is attended.
15. Yes there are two families that have learned very well and attend their own cattle, and those of their relatives. He does not feel affected by this situation.
16. In the early years the demand was high (2003-4) due to quality work, the quality of the service, then it went down and then has gone back up again, maybe this is related to the presence of agr-livestock technicians.
17. Yes, graduated from the Technical Institute, they do similar work to Ks, they limit to a certain extent the sphere of activity of the Ks.
18. No, there is support from SENASA and MINAG.
19. Sharing knowledge, joint technical assistance, dealing with consultations and difficulties faced by other Ks
20. Belongs to the Assoc.
21. Training courses, income from receiving tourists, visits, grants.
22. SENASA – vaccination campaigns. He is an official information agent for SENASA

27. Vicente Cahana Wilca

Community: Hercca

District: Sicuani

Interviewer: Yolanda

1. He offered himself voluntarily, because nobody else was interested to participate, he was motivated to support due to improve the health of his livestock:
2. It was more practical than theoretical, it was in the field directly with the communities, with the livestock, fruit trees, irrigation, improved pasture etc.
3. Cultivation of horticultural products, management of stables, improved pasture.
4. Everything was useful
5. He did have difficulties because of his inability to handle maths: irrigation (square metres etc) and veterinary inputs (dosages) He didn't have much success with fruit tree plantation.
6. There were gaps on horticulture, irrigation and animal health.
7. He attends short training courses: guinea pigs (Min of Agr) Milk processing –milk products (ITDG- Min of Ag)
8. Yes he has the certificate, it doesn't benefit him as he does not offer technical assistance services. To be better the certificate should be recognised and issued by SENASA/Municipalities.
9. Animal Health –medicines for cattle, irrigation and fruit trees.
10. No
11. If the practice turned out well, if they applied it successfully that means that they learned. Observation of results
12. No

13. Doesn't give technical service

19 Yes, there is a lot of collaboration and interchange of learning, knowledge and practices

20 Belongs to Assoc, get favoured access to courses, permits relationship building, experience sharing with other K, income from receiving tourists.

28. Nazaria Flores Yana

Community: Cuchuma

District: San Pedro

Interviewer: Yolanda

1. I participated voluntarily, in the communal assembly we were invited to participate
2. At the start it was theoretical and then practical, the theory and the practice were done proportionally
3. Animal health, kitchen garden
4. Everything was useful
5. It was difficult to learn some themes – for example dosages and injection, everything around the concept of millilitres , perhaps it is because I only reached year 5 of primary school, if I had made it to secondary school it would have been easier.
6. I didn't find any gaps but we needed follow up training on dosage and injections.
7. I didn't get the opportunity to get my knowledge up to date; I am not giving technical assistance. I am in charge of the mothers' club and that absorbs my time.
8. Nobody requests my service, I don't give service and I don't have time for it, therefore it is not useful.
9. I don't offer technical services generally, but I do attend and collaborate with relatives. The most complex thing is to administer injections
10. None
11. In the moment in that they apply or practice what I taught. I they don't apply it means that they didn't learn
12. It seems to me that what I taught was not useful, didn't work and they don't apply it.
13. Only relatives, or when her husband, who is also a K, is not around. She attends relatives (around 40 persons)
14. If anyone needs attention I would give it – whether they are poor or well off.
15. No
16. Initially it was very little, now the demand has gone up and we attend with fresh agro veterinary products. We don't cheat we give out at cost price.
17. The promoters trained by Heifer are the same Kamayoq: Demetrio and Albino.
18. No
19. Nobody has sought her collaboration. If they sought it she would do it with great enthusiasm. Perhaps it is because she is a woman, the men don't value women. I was an Assoc member for a while but now I don't have time.

Annex 4: Kamayoq livelihood study – Jose Solis

Jose Solis, *EL MODELO KAMAYOQ: ¿SOLUCION PARA LA EXTENSION AGRARIA EN PEQUEÑOS AGRICULTORES?* 2008

NB At the time of the study 3 Peruvian Nuevo Soles were worth approximately 1 US Dollar. 5 Soles to the UK Pounds.

In 2008 Practical Action Latin America carried out a Kamayoq Livelihood study led by Jose Solis. It aimed to discover the livelihood strategies implemented by the Kamayoq following their training in the Kamayoq School and their impacts on the well being of Kamayoq households. The following section is a translation of those findings which interlink with the international study. The dimensions of the study were as follows:

Kamayoq questionnaire	In- depth interviews	Case studies	Total
140	5	11	155

Communities in which interviewing was carried out

Highland Sicuani	Valley Sicuani	Highland Marangani	Valley Marangani	Vally zone Other districts
Pumanota Tangabamba Sta Barbara Molinopampa Accoaccophalla Los Andes Condorsenqa Chapichumo Pataccalasaya	Sunchochumo Pampacalasaya Pumaorqo Lari Hercca Pampaphalla Suyo Chihuaco Sengachectuyoq Cconcahua Chari	Toxacota Choquecota Chillihua Qenamari Senqa Chectuyoq Llanga Llanga	Mamuera Chectuyoq Sullca Ccaycco Cuyo Ocobamba Huancococa Llallahui Quisini Hercca Huarocani Pumaorco Chauchapata	Palccoyo Chari Machacmarca Huanchochapi Quea Cuchuma Mojonsuyo
9	11	6	13	7

Number of communities in the PA area	Number surveyed	Number. Kamayoq trained	Number in the survey
60	46	212	140

Information was been collected from 77% of the communities where Practical Action has been working and from which the Kamayoq originate. 31 of these communities are on the valley floor or valley slopes and 15 are on the highland plateau

The sample breaks down between “active” and “inactive” Kamayoq as follows

Total kamayoq trained up to and including the 7th group	Active Kamayoq	Active Kamayoq interviewed	Non active Kamayoq interviewed
212	120	83	57

The sample is broken down by group as follows

1st	2nd	3rd	4th	5th	6th	7th
11	27	22	20	16	28	16
8%	19%	16%	14%	11%	21%	11%

Of the 140 Kamayoq surveyed, 43 are from the communities of the high plateau and 97 from communities on the valley slopes and floor.

Impacts on quality of life of Kamayoq households achieved by the Kamayoq School

1. The well-being of the families (social, physical, human, natural and financial assets) of Kamayoq has increased, as expressed in the extension of housing, purchase of household goods, high levels of investment in the education of children and the start up of new businesses.
2. Kamayoq have developed knowledge and technical capabilities, as a means of making a living, in the fields agriculture, livestock and agro-processing; they have transformed their livelihoods starting with the upgrading of their own fields and herds.
3. The majority of Kamayoq have made investments which enable them to link to markets more profitably, guinea pig sheds, increased holdings of improved animal breeds, sprinkler irrigation units, etc.
4. Formation of interest groups and associations of producers and in the start-up of family micro-enterprises; taking control of the production and commercialisation processes.
5. All the Kamayoq have achieved household food security: improvements in the productivity of their plots, increase of yields, incorporation of improved seeds, sowing of pasture etc.
6. Strengthening and consolidation of families, with re-organisation of roles; new learning on the part of women and children, where the Kamayoq has served as a model of enterprise and success.
7. Reduction in the vulnerability of access to natural resources, credit, and working capital due to improvements undertaken by the Kamayoq to improve the quality of plots, efficient water use and greater availability of animal feed.
8. Elevation of the self-esteem of Kamayoq through the improvement of their capacities, family recognition and recognition in the community and beyond.

9. Extension of social and institutional networks, awareness of further training, improved possibilities for empowerment; contacts with new social actors and contractual opportunities

10. The positioning of the Kamayoq as a reference point in the provision of technical assistance services for livestock, especially in demand from farmers for services on animal health and genetic improvement and others.

Various factors explain these achievements of the Kamayoq:

The educational/training package of the Kamayoq School

- ⇒ Its relevance for intercultural technical training
- ⇒ Emphasis upon construction of knowledge and know-how
- ⇒ The method of mutual learning
- ⇒ Group of identity and self-esteem

Practical Action orientation towards human development improved the capacities and provided opportunities for the candidates with a view to widen their options for challenging existing productive conditions and vulnerabilities.

The Kamayoq farmers find their own strategies, capitalising on their ancestral technical knowledge and articulating it with modern, useful and applicable knowledge to resolve the diverse constraints of Andean agriculture and animal husbandry. They root a range of pertinent alternative technologies within their existing cognitive system and when they validate them, they put them into use. They find a new meaning in life through exploring new approaches in search of excellence and at the same time increasing income, having sufficient money available to resolve personal and family needs and invest in production.

The application of this knowledge and know-how provides them with capacities to increase the productivity of their own lands and animals, discovering that with better knowledge it is possible to generate resources, even without the need for credit in the first instance. This knowledge is then used to offer technical assistants to other households as a technical service provider. They multiply the adopted technologies, with uptake by poorer families without recourse to the conventional technical assistance market.

Changes in natural assets of the Kamayoq

Before entering the School, the Kamayoq were just like the other small farmers and herders on the area, farmers working in agriculture as a means of subsistence, where cash is earned in activities outside agriculture; living in a poverty medium, with inefficient production, dependence on external inputs, lack of alternative technologies and weak links to market.

As a result of their training process they became aware of these deficiencies and started to review their own practices. They began transforming their own practices and applying a range of new techniques pertinent to the solution of their problems having taken the decision to improve their natural assets, cultivated land, livestock, pastures and water management. The way in which the Kamayoq have improved their natural assets has been gradual and with substantial investment of household labour.

The interesting thing about this increase in natural capital is that the Kamayoq achieved these investments with their own resources and achieved substantial changes in farm

output with sales of meat, wool, live animals, the resources being ploughed back into ever more efficient and competitive practices, increasing the performance of all factor of production. Through development of their potential and capacities, Practical Action has enabled the Kamayoq to learn how to overcome inefficiencies and apply lessons in their own holdings, liberating their immense latent potential.

The improvements to the plots have come about through better seed management, improved organisation of irrigation, better soil fertility through application of manures, more opportune timing of planting and better harvest and post-harvest practices. Also new varieties of seed for maize and potatoes have been introduced; seed quality has been improved through purchase and exchange, and widespread use of different types of compost.

In terms of livestock, improvements have come from rigorous application of health practices throughout the seasons, and application to their herds of improved techniques in breeding, mating, tail docking, weaning etc. They have also applied improved feeding techniques, pasture cultivation, hay-making and silage

CHANGES IN NATURAL ASSETS

CHANGES IN PRODUCTIVE RESOURCES	INDICATOR
Increase of productivity per hectare of crops	<ul style="list-style-type: none"> • Maize from 2000 to 2500 kg/ha. • Potatoes from 5000 to 6000 kg/ha • Wheat from 900 to 1200 kg/ha • Barley from 1000 kg to 1200 kg/ha
Availability of irrigated land	<ul style="list-style-type: none"> • Increase in area under irrigation by 0.3 ha • 90% planting improved pasture • Application of more efficient irrigation techniques

The factor that explain these changes are as follows:

1. The Kamayoq have increased their knowledge, skills and technical expertise to the extent that they are able to implement organisational and technological innovations.
2. They are more capable of transforming adverse realities and come up with solutions to their own problems.
3. The productivity of family labour has increased.
4. The families of the Kamayoq have changed from fatalistic to proactive attitudes and values.

In conclusion, the Kamayoq School was, for its students, “the light” which shone onto the previously obscure area of technical knowledge, the fascination of discovering a technical management different to the norm and achieving the predicted results. The application and proof of effectiveness of good technical management on their own land has brought about a conviction that only through knowledge can one have access to greater possibilities for increasing productive resources, accessing a better and more diverse diet and generating income.

Changes at the level of financial capital

Improved Income

The improvements achieved in natural assets by the Kamayoq have made it possible for them to significantly increase their financial capital, directly related to the availability of higher levels of cash income. According to the study, all the Kamayoq say that their income comes from two sources, i) diverse household activities and ii) technical assistance

Prior to training, family income came from sale of livestock and complementary off-farm activities (e.g. mason labourer, peddler, driver, carpenter). The substantial change in the composition of family income comes from the fact the Kamayoq are dedicated to two new activities

1. Technical service provision
2. New productive activities which open up income opportunities; sale of guinea pigs, handicrafts, beef fattening, improved sheep, alpaca breeding, marketing of alpaca wool and meat.

This is an extraordinary turn around in the composition of family income, as it involves all family members and motivates them to remain in the farm and the community. This is a heterogeneous situation, depending on the diverse extent of involvement of Kamayoq in the labour market.

A new landmark is the income that Kamayoq receive from technical assistance services. Here the monetary value is not significant, except for the 12% that have achieved regular income. The majority say that the income is “a help” or “gets me out of difficulties” but that they cannot make a living as a Kamayoq as a principal or full-time activity. With respect to payment of Kamayoq advisory services, the situation is not at all favourable. In the peasant world view technical information is inconceivable as a commodity, as knowledge is something transmitted from generation to generation, and is therefore social in character.

The average income for a Kamayoq from technical assistance per month is between 60 and 100 sols (20 to 35 USD) The greatest contribution to family income from the Kamayoq School has been that the Kamayoq discover new income options in productive activities never explored before: production of guinea pigs, beef fattening, alpaca production, sheep improvement, yoghurt production, to name a few.

This is one of the most important and sensitive areas in which to make estimates, but substantial qualitative information helps us to understand the transformation of the income structure of the Kamayoq. There is a general consensus expressed by all Kamayoq that before entering the Kamayoq School their lives were poor in every sense of the word, but having taken the decision to take advantage of the technical knowledge received, they were able to build on farm micro-enterprises

New Productive Activities

The Solis study has substantiated the fact that each Kamayoq has initiated at least two new activities and incorporated them into their production system. Some have also consolidated and improved their existing main livelihood options.

In the Kamayoq School I learned about better activities I could initiate, I started working in a more technical style with my animals and now I get a better price in the market. I also acquired plenty of knowledge on guinea pig production and marketing them in shows. This has also permitted me to get contacts with institutions, traders and buyers. I have learned about activities that help me to improve my domestic activities, I have

always done beef fattening but didn't know any good techniques before, moreover I now have improved animals which give me milk to sell and make yoghurt for my wife to sell. I have also put effort into producing native potatoes for household consumption.
 Patricio Soncco, Chipichumo Community

The Solis study has provided the following data on new activities pursued by Kamayoq

Guinea pig breeding.	82	25.0%
Alpaca production	45	13.8%
Beef fattening.	43	13.1%
Improved sheep rearing	32	9.8%
Trader in farm products	28	8.6%
Handicrafts	26	7.9%
Yoghurt,/fudge production	22	6.7%
Pig rearing.	20	6.1%
Bee-keeping.	13	3.9%
Native potatoes	8	2.4%
Horticulture and medicinal plants	5	1.5%
Poultry rearing	3	0.9%

Kamayoq in the valley floor now spend more time on production and processing, reducing labour migration to zero. In the case of the Kamayoq working in the high altitude alpaca zones, labour migration levels were prolonged (6 to 8 months of the year). This has reduced to 3-4 months with opportunities they now have for wool dealing, sale of high value mating animals and potato production.

The guinea pig market has developed due to the presence of private companies promoting the activity, government promotion of rearing for export, credit and advisory services for rural micro-enterprise, fairs, shows and festivals. The other attractive factors are the rapid conversion of pasture into meet, ease of breeding, small investments required and the possibility for training the whole family to a competent level on breeding and veterinary practices.

In the alpaca market the Kamayoq have discovered a large market niche is technical assistance on breeding, concentrating primarily on animal health, to guarantee the survival of animals in the tough conditions which previously produced very high mortality rates. The most profitable entry point has been for Kamayoq to manage genetically high quality breeding animals, to break the vicious circle of in-breeding, degenerate herds, poor quality fibre and low prices – poverty.

The other motivating factor is the market in alpaca hides for the leather industry, for which the Sicuani area has a historic reputation, but where previously the producer has entered the market on disadvantageous terms. The Kamayoq micro-entrepreneur offers a guaranteed technical assistance service for the alpacas that he/she sells, a complete service including all necessary advice on breeding and marketing. That is the secret of their success.

Micro Enterprise Activities

One of the most significant processes of change generated by the empowerment of Kamayoq has been the stimulus to two types of micro-enterprise

Family Micro-Enterprise

Here the Kamayoq have assumed the role of suppliers of products and employment at a local level. The micro-enterprises are installed in the dwelling, and actively engage the whole family. Currently there are 25 Kamayoq (12%) who are in this successful situation.

The interesting aspect of this option is that all have been self taught in the creation of these enterprises, each Kamayoq searching for his/her own source of finance, contacts and networks to succeed in implementing a family business without external support.

Associate producers

Taking advantage of the presence of credit institutions, many Kamayoq have entered into joint small business management in areas in which they have become expert as a result of their training in the Kamayoq School. Some of these Kamayoq small business proprietors offer their enterprise as a training centre with different options (placements, experience exchanges) in which they are the trainers and receive payment for this service.

In Sunchuchumo we are 11 kamayoq trained by Practical Action who have created a producer association in order to access a Business Plan under the Puno-Cusco Corridor Project. A plan for S/ 14,000 was approved we have all contributed an equal share. With an equipped premises we have hired engineers who have trained us on business management production and marketing of yoghurt..

From this original group we are now 3 who currently sell yoghurt on an individual basis. The production from the three of us is 80 litres a day, we each have our own clients in Sicuani and Cusco. We make the yoghurt with milk from our cows but this is insufficient so we buy up from our neighbours. We are making about 40 soles per day each

We have organised ourselves into a micro Enterprise called COMERSUR and get training from the Corridor Project, Practical Action, Caritas, the local authority, we exhibit in shows and fairs, and we sell always at the same price. We meet at the end of each month to coordinate our work. At the moment we are learning to produce other types of milk based products (*natilla, dulce de leche, manjar blanco*)

Sabina Merma Bonifacio

Basing ourselves on the data and making some inferences we can say that family income had been reconfigured as follows.

MONTHLY INCOME FOR KAMAYOQ FAMILIES (soles)

VALLEY KAMAYOQ		HIGHLAND KAMAYOQ	
Guinea pig sales	300.00	Sale of alpaca wool	200.00
Beef fattening	400.00	Sale of alpacas	200.00
Kamayoq services	100.00	Sale of mating stock	300.00
Sale of other farm produce	150.00	Sheep fattening/potato sales	100.00
Sheep sales	100.00	Kamayoq services	80.00
Total	1050.00	Total	880.00

Access to credit

It is interesting to analyse the Kamayoq logic on the issue of credit, they all perceive it to be essential to dynamise their economy, but the fear of losing their property is an inhibition.

There is distrust in bank loans and a generalised fear of becoming indebted with formal financial institutions, which would put their assets at risk. There are also high transaction costs, pre-requisites that are difficult to meet, and high interest rates. For that reason, 77% do not access bank loans, and do not have bank accounts. Nevertheless, when NGOs or other development institutions offer finance under more favourable conditions (low interest, no risk to assets) the Kamayoq are able to access it.

In parallel, Kamayoq also use informal credit which has many advantages, it is passed purely on personal confidence, has no transaction costs and poses no threat to assets. The local money-lenders also offer additional support such as information on prices, contacts higher up the value chain, provision of inputs and other social benefits.

The indicators are as follows:

- ⇒ 86% use credit
- ⇒ 23% have accessed credit from the formal sector
- ⇒ 71% have invested in market orientated enterprises

Investments

In comparison with 5 years ago, it is interesting to discover how the Kamayoq have invested their additional resources.

	BEFORE	NOW		BEFORE	NOW
CONSUMER GOODS			NATURAL ASSETS		
Television	73	114	Indigenous cattle	94	83
Radio	126	136	Improved cattle	15	80
Bicycle	93	112	Indigenous sheep	82	79
Tricycle	34	52	Improved sheep	09	52
Stereo	18	57	Improved alpacas	45	52
Telephone	02	35	Llamas	30	29
Car	03	07	Horses	39	43
PHYSICAL ASSETS			Donkeys	19	22
Domestic water supply	40	93	Pigs	13	17
Plough	26	30	Guinea pigs	91	93
Spraying kit	18	67	Sheep	56	54
Veterinary Equipment	15	89	Ducks	12	09
Wire Fencing	18	37			
Shears	13	18			
Threshing Machine	--	01			
Sprinkler Irrigation	04	54			
Hosepipe	17	72			
Shovel, Pick Aves	127	134			
Chakitaclla	118	127			

In comparison with other households in the community, the productive investment made by Kamayoq is greater. A typical family in the zone invests 40% of its income in consumer goods (radio, TV, phone etc) and 10% on agriculture/livestock related equipment. The Kamayoq attitude is the reverse. They have acquired inputs, equipment,

small infrastructure, tool or small machines that consume approximately 60% of their income, the rest going for education, consumer goods and food.

Typology of Kamayoq proposed by Jose Solis

Beginner Constantly looks for institutional support, still very insecure and has not yet succeeded in taking of from his/her own plot, occasionally looks for clients but is still not self confident in mastery of techniques, is still testing him/her self. Constantly requests tools, equipment and further training. Has a strong community linkage.

His/her principal occupation is farmer or herder and he/she develops other complementary and non-farm activities. The profile is of a young person between 25 and 30 years old with minimal assets, constantly searching for economic resources and sources of income.

In terms of social capital he/she has few contacts, is still tied to the communal medium, personal capacities are recently developed, in the role of Kamayoq is still insecure, has a great deal of enthusiasm but lacks skills. This category covers around 25% of active Kamayoq.

Jack of All Trades This Kamayoq has a hand in everything, tries everything and gets involved in any opportunity or work going. Incessantly searches for training to resolve the demands that he/she needs to fulfil; creative, aspires to work on contract to institutions to obtain regular income. Has a sporadic and distant relation with the community.

Has a house, land and livestock but in small quantities, counts on networks within and beyond the community, are linked to some institutions, are restless, have improved personal capacities but still do not have a clear productive strategy or economic position. They are the most numerous group of Kamayoq, between 30 and 35 years of age.

Conformist This is the Kamayoq that has been trained but has not succeeded in generating a social network, responds to requests for technical services but without a greater vision of change or innovation. Has not found the possibilities that others have. Passes unnoticed in the community. They are few (4% of the total)

Consolidated This is the person that has generated a wide client base for technical assistance, is contracted by all types of social and economic agencies, develops relationships which support the effort to maximise returns on investments. Combines the role of producer and service provider very well. Maintains cordial relations with the community. Manages one main enterprise which involves the whole household. Aged 40-45 years. Belongs to various unions and associations. About 28% of Kamayoq fall into this category.

Innovator This is the highest level of Kamayoq, having developed and passed through the stages described above. Is in a continuous process of acquisition of knowledge and skills. Has consolidated main economic activities and is in a process of deepening investments in the family business. Maintains formal linkages with the community. Constantly looks for finance to expand the business and enter into more areas of agro-processing. Has a good network in communities, public institutions, NGOs and private companies. Is very competitive and restless in the search for innovation. There are 10% of Kamayoq in this category.

Active and Non-Active Kamayoq

The Kamayoq develop themselves over a period of 10 to 12 years from **Beginner** to **Innovator**, apart from the few that fall by the wayside (**Conformist**). At the same time new groups of Kamayoq have started to incorporate themselves into the market. Initially all trainees assumed the role of Kamayoq according to parameters established by the community and Practical Action. They entered a process of widening their networks and

social relations, discovering the validity of different technologies, applied them in their fields, replicated them in the fields of friends and neighbours, and found opportunities for income and employment. Gradually each Kamayoq finds their own way of working, and putting that together with their capacities, ambitions, relations and expertise they make a personal decision whether to continue as a Kamayoq or not (technical assistance provider). But this decision does not negate the process of technological empowerment that the individual has been through.

1. This path to self-fulfilment has been trodden by all types of Kamayoq, the original groups with integrated training as well as the later specialised groups; from the valley floor up to the high Andean plateau. It applies to the Kamayoq with access to dynamic markets as well as to those that are scarcely linked to markets at all. The decision to become “inactive” is linked to a positive leap towards economic independence, the chance to become a producer and not just a farmer.
2. Others decided to continue their role as Kamayoq by linking their technical assistance to the outputs of their family business
3. There are “active” or “inactive” Kamayoq amongst the “jack of all trades”, the “consolidated” and the “innovator” types - being a micro-entrepreneur can mean either continuing or abandoning the Kamayoq role.

Lessons Learned

- I. The Kamayoq School has been profoundly embraced in the rural economy and farmer’s institutions in Sicuani, by attending to needs and demands that had never before been taken into account by any institution, public or private. Its success has exceeded the expectations of Practical Action
- II. The Kamayoq model reached its goals by generating tremendously important impacts in the livelihoods of these technology leaders. They have increased their income, family welfare and quality of life, they have accessed markets and performed well as entrepreneurs, and they have increased the scale and efficiency of use of productive resources.
- III. The spark and the motor of the process was the broadening of knowledge, skills and abilities in the adoption of technologies, whose application led to higher levels of productivity and efficiency, showing that it is possible to increase wealth amongst small scale producers on their own terms.
- IV. The School proves that the peasant world view can incorporate two realities simultaneously, passing from one to the other and combining them according to circumstance. This has been proven by their use of technologies, access to credit and participation in markets.
- V. The process of globalisation has impacted negatively upon the traditional rural economy, but also rewarded the development of creative responses by the Kamayoq.
- VI. It has reversed the out migration in Kamayoq families as the new agricultural and livestock enterprises make a profuse demand on family labour.

Annex 5: Dumont Study - Summary

Timothée Demont, Fighting constraints to agricultural innovation: a market approach. An experience study of two community-based development projects in the Peruvian Andes, CRED, Namur University March 2007

In 2006 Timothee Dumont, Namur University, Belgium carried out statistical analysis of the detail records of the Kamayoq School held at the Practical Action office in Sicuani from which he was able to identify the characteristics of a successful active Kamayoq:

A successful Kamayoq is a middle-aged peasant who is well anchored in his or her community, in order to be able to

- ⇒ master suitable farming techniques,
- ⇒ stay in the same place on a lasting basis
- ⇒ command a good relationship network.

The variables age, marital status, number of children etc. have positive impacts on the activity rate of the graduates. Women more are likely to encounter barriers to supplying services, but the Kamayoq School has successfully combated the cultural norms that Andean wives should stay home to look after children and small animals, and need their husband's permission to go out. Relatively educated peasants are more likely to understand and to put in practice the training they received. There is a major discrepancy between the activity rate of graduates from the three first cohorts of the School and graduates from the following ones. This is because there was a radical reorganisation of the Kamayoq School from the 4th group.

The main changes were:

- ⇒ the reorientation towards specialized training on one particular topic instead of general but also more superficial sessions in the first wave,
- ⇒ a more careful selection of the candidates, based on objective criteria such as a limited number per community, the age and the marital status of the applicants.
- ⇒ the end of input gifts to graduates: the habit to grant sheds, seeds, drugs and other materials to graduates was replaced by a shop with loan facilities,
- ⇒ more groupal activities through TV and radio programs, advertising events and shows.

Belonging to the first three cohorts largely reduces the activity rate of Kamayoq (by almost 30 % on average). Training topic certainly plays an important role in this. It is certainly easier to supply animal health services than services in irrigation or forestry, because they have a more obvious and immediate economic value. Peasants see that their animals are dying less; they do not have to buy expensive products from town suppliers. Kamayoq who are more carefully selected and who receive specialized training are more likely to be active.

Number of children is the best proxy for the degree of real anchor in community: it increases activity rate. This is a strong effect, as it offsets the fact that more children also means more time to look after them or to generate cash through off-farm jobs (i.e. time not devoted to Kamayoq role). Graduates with more than secondary education have more income and outside opportunities, so that they tend to be less active as community service providers.

Educated Kamayoq who have children are systematically more likely to become true technological leaders, who can effectively supply services to their community on a lasting basis. Moreover, the Kamayoq strategy works better in higher-located areas than in the valley floor where competition from other service providers is greater. Dumont concludes that the reorganisation of the School between the 3rd and 4th groups was a crucial step in the right direction for the School.

Annex 6: Qualitative Material From Kamayoq Questionnaires.

Table 1. Kamayoq Trained from 1996-1999, Integrated training

Nº	Name	Kamayoq Service Profile
1	Julian Ccala Corahua.	Covers 5 communities on veterinary service with 200 clients in the busy season. Maximum monthly income is 400 soles . This is the main income to sustain family. Buys drugs from the shop, no problems of supply/quality. Provides advice and inputs in crop agriculture.
2	Sabina Merma Balladares	Local veterinary service. A lot of other Kamayoq in the community and technical graduates. Maximum income for a month is 45 soles. Has 5-10 clients. If the clients can't pay, they work in the field.
3	Melquides Cruz Pauca	Covers own community with veterinary service, 70 clients, earns maximum monthly of 100 soles. If can't pay, work in field. Competition from technical graduates, so he gets hired by other communities. Gives advice on crops, unpaid.
4	Vicente Cahuana Huillca	Not Active. Has worked on his own to improve livestock and pasture. Gave advice for 2 years and then gave up. Time is not paid – so cannot afford the time.
5	Anselmo Quito	An irrigation specialist. More recognised in other communities than his own. Covers many communities, promotes his services through the Cusco-Puno Corridor project. Hired by the Ayacucho regional government. Sells seeds, pesticides and irrigation services, earning 1800 soles between Aug and Oct 2007. Gives services and free advice to 70 clients on animal diagnosis and feeding.
6	Eustaquio Huanca Quispe	There are a lot of Kamayoq in Sunchochumo –he has to go to far communities and other provinces to get business. Locally he has 15 clients, 75 sols monthly income. Also serves 6 communities. Every 15 days he walks 9 hours to furthest community. Hired by Pronamarcha. Community envy is the main problem. Has commercialised crop services: pesticides, saplings, irrigation, seeds and fertilizers.
7	Roberto Huahua Sonco	Not active. Changes to carpentry, more income. Worked as a K for 4 years, mainly humanitarian support. Gave up due to lack of income/inputs. Worked on contract to MARENASS. Then sold cattle to fund carpentry business.
8	Lorenzo Sencca	Has worked continuously for 10 years. Covers 4 communities, Has some paid elements on seeds, gives free crop advisory service. Livestock service aspect most important. Works as paravet for the community enterprise in PumOrrca.
9	Mario Lopez	Has more work in other communities. Less recognised by own community. Has around 50 clients and 300 soles monthly income. Due to lack of capital, he can only work with cheaper veterinary products. Has developed some natural medicines. Gives free crop services.
10	Octavio Soto Tito	Covers 6 communities, 300 soles max monthly income. Has worked on contract to MARENASS. Income from animal health and breeding services. Maintains free crop advisory services.
11	Angel Morrolio	Covers 10 communities, 90/100 animals per community. Around 1000 cattle treated, 0.5 sols mark up per dose – 500 sols profit per months. Works on animal health –especially natural medicines. Attends the poor who can pay once or twice out of friendship. Has been hired by other communities.
12	Francisca Bustanza	Not active, stopped working, lack of support, people were not interested

Table 2 : 4th and 5th Groups. Animal Health and Pasture 2003-2004

Nº	Name	Kamayoq Service Profile
1	Jesus Camino.	Irrigation/pasture specialist, 20 or so families served in own community. Often paid in produce. 60 sols cash made in a month. Does day contracts with different institutions, rates of pay are as follows: NGOs – 25 sols, Municipality- 30 sols Private sector -50 sols. Advises on pests, agro-forestry, irrigation. Income from services on sprinkler irrigation systems and guinea pig husbandry.
2	Serapio Ccano	Stopped working due to lack of training and competition from other Kamayoq.
3	Huber Quispe	40 clients – max income 550 soles works in 5 communities. Offers range of crop advice without charging
4	Freddy Tapara Quispe.	100 clients during campaigns – in 2/3 communities. Sometimes paid in produce. Worked for OICOS. Original motivation was obligation. Now income. Offers range of unpaid services on crops, sells pesticides.
5	Maria Huaman	150 clients, in 4 communities, 300 sols income. Offers entire range of crop and livestock services. Serious problem – envy. Works on contract frequently.
6	Solomon Laime	Full time Kamayoq. Goes to 8 communities, has 100 clients, offers every kind of advice/service. Motivation is improving communities. Has been hired by SENASA and ITDG. Speciality is natural medicines.
7	Fernando Meza	Makes 0.5 sols per dose, 150 cattle, 75 sols profit. He has days where he is available for his community. Works for NGOs, specialising on preparation of organic fertiliser for pasture. Also interest in natural medicines. Contracted by Cusco-Puno corridor project.
8	Raymundo Chunga Condori	Has work with CARITAS, Corridor and APACHETA. Has not worked as a Kamayoq due to other leadership roles in the community. Also needs proper certification – the ITDG one lacks credibility.
9	Juan Huacani	3 communities – 50 km Gets 500 soles per month in high season. Paid by another community. Offers all types services and advice.
10	German Cruz	Works in own community. Successful guinea pig entrepreneur. Offers K services as a side line, earns 30 sols. Offers some agriculture advisory services too – esp. natural fertilizer. Is a service supplier under the Corridor Project
11	Fernando Aviles	Animal Health – problems of competition with Technical college graduates. Advises on field preparation. Covers 10 communities on a call out basis. Has 150 clients in January (max) Works for Project Concertado. Needs proper certification. Has the capacity to overcome and resolve problems in production.
12	Jorge Condori Maxi	Didn't get certificate – he dropped out due to favouritism. He was deliberately left out of information sharing on times for sessions by other K. K given work by ITDG and others got nothing. Despite this has earned 200/300 sols per month giving services – guinea pig specialist. Earns more from working short term contracts. This is still his main work.
13	Alfredo Montesinos	3 communities, 100 sols per month. Offers every kind of advice and service, charges for animal health services. Works for an agro-veterinary dealer, and for 2 community associations.
14	Domingo Juenca	4 communities – 30 clients – 150 sols income. Offers all agr. services, charges for field preparation. Works for NGOs
15	Juana Chatata	Specialist in guinea pigs gives lots of crop services too. Serves own

		community, max. clients 80, gets 150 sols income. Very community service focussed.
16	Sergio Mamani	University Graduate. Serves 50 clients in 6 communities – 20 km radius, 1500 max monthly income. Also provides training across the board including crops, agro-forestry, market, field preparation. Receives payment from the community – a daily rate.
17	Felicitas Quispe	Has been in a permanent process of training since 2000, has thirty community clients for animal health services, a secondary occupation. Has commercialised natural medicines. Works on contract to municipalities and SENASA. Participates in a TV broadcast every month. Secretary of Kamayoc Assoc.
18	Bartholome Maxi	Only gives a service when asked. Certificate doesn't help much, Charges for vaccination, feeds and delivery service –average of 10 clients. Has been hired by Ccuyo community. Most critical problem is not knowing about Artificial Insemination.

6th Group Alpaca Husbandry Pasture Management 2005

Nº	Name	Kamayoc Service Profile
1	Remegio Rodriguez	Enthusiastic but is envied by the community, who think he is paid by ITDG. Covers 3 communities with 30 clients, 120 sols income. Can't expand as there is too much competition. Gives pasture advice. He is semi-voluntary, payments are optional, and he works to get respect.
2	Yaniel Mamani	Covers own community, secondary occupation. 10 clients, 60 sols income. Only works on livestock/prices. Most critical problem - unable to get paid immediately. Has greatly improved his own alpacas.
3	Mario Soncco	Still very small client group – 6. Makes 40 sols, secondary occupation. No contract work, lacks information and experience
4	Pedro Valerio	Likes genetic improvement. Gives support and doesn't charge anything. No clients as such, he work for conviction, works only in his own community, attending emergencies
5	Cornelio Mamani	Enthusiastic – sometimes doesn't have time to visit other communities. ITDG cert not very valid when he presents his credentials for work opportunities. 10-11 clients – 30 sols income. Sometimes they don't pay me and that is that. Works on alpacas only. Sometimes the clients don't pay for the drugs from the ITDG supply and to make sure that ITDG does not lack confidence in me, I have to put in my own money. I like to help others, but however hard I try to motivate them, they still don't pay attention. But I'll keep trying. With some I have succeeded in making a change but others still not.
6	Nicholas Fuentes	Works in own community, secondary occupation, makes 40-50 sols profit from treatments and gets lots of <i>ayni</i> for other services, hides and cubs given.
7	Edwin Cuevas	Principal work – Kamayoc. Working fine, no problems. Makes 30 sols profit -cash for veterinary products. Sometimes paid in skins for other services.
8	David Choqueluque	Specialist on processing of alpaca meat – <i>charqui</i> Only work in my neighbourhood as there are 3 Kamayoc in Toxacotta. 30 sols profit – Lacks certification -the ITDG diploma on its own is not complete proof of competence.
9	Demetrio Mamani	Works in own community and makes 20 sols profit. If the client has the

		medicines I am happy to apply them without charge. Secondary work
10	Vicente Chatata	Lots of training , appears to have Alpaca and Native Potato training Covers 12 communities by motorbike, 30 clients -250 sols Charges for all services provided – e.g. sells potato seed. Works for a business on contract. Makes a living as a Kamayoc
11	Alejandro Carrion.	25-30 sols profit. Visits Chillhua and Nequecotta which is very remote, 40km, takes 6 hours by horse. This is secondary work –humanitarian support. Does fibre bulking for INKATOPP.
12	Gregorio Flores	President, Kamayoc Assoc. Serves own community with 30 clients earns 170 sols. This is secondary work. Also hired by Llahlahui Community Enterprise.
13	Eulogio Barrientos	Covers two communities by horse. Has 18 clients in busy months. Income data is unclear. Works as a Kamayoc full time, only accepting cash payments. Does not offer a service again to an individual who has already failed to pay once. Has worked on contract to the Ayacucho Regional government, on irrigation. Has economic difficulties but is motivated by elder Kamayoc to continue the work. Problems include confrontation with other service professionals and lack of adequate equipment
14	Simon Apaza	Lots of training besides ITDG, Technical college graduate. 10-15 clients, small mark up on drugs. Can get paid if he spends the whole day advising a group. Goes to other communities on campaigns – no opportunities in his own community. Contracts with SENASA, Corridor, Ministries. Kamayoc work is a complement. Leadership is his main motivation.
15	Santiago Quispe	Alpaca plus Native potatoes. Serves 4 communities on animal health, serves anyone who believes in K. Has 15 clients, doesn't charge for service, only covers costs of drugs. All services are free but on animal health side does not practice operations, only drug application. On potatoes he is still experimenting on his own plots to get results, paid in cereals. This is secondary role, he is first and foremost a producer needs to improve.
16	Marcelo Mendoza	Full time super active, 4 training courses. Works for ITDG, CONACS and PERSA, regular income. Requests support on modern equipments- e.g. ecography

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7th Group: Native Potatoes, 2006

Nº	Name	Kamayoc Service Profile
1	Ediverto Willca	3 clients own community, free service, ITDG gives seeds. Important work for the community, the main problem is envy.
2	Julia Lopez Condori	Max 18 clients – 3 communities, works for free, given food.
3	Benita Illa Mamani	Not enthusiastic to share what she learned, she practices it herself, arguing lack of time and lack of interest of other community members.
4	Julian Gallegos	Works by giving talks in the community assembly. The community members learn from him and start practicing on their own.
5	Rosa Cruz	Has a couple of clients who visit her. No money involved.
6	Isabela Roa	Practices on her own plot but doesn't go to others. Doesn't have time.
7	Patricio Soncco	Has 7 clients – reciprocal work and food. Main problem is envy from

		the community for help received from ITDG. He will keep talking to try to get people to understand. Satisfaction of solving problems for oneself.
8	Marcos Mamani	Marcos Mamani: Has not started working yet but intends to. He doesn't have time at the moment. He needs equipment and supplies. He would work, but in other communities. Here there is no interest and people contradict me. Is looking for more information and training to start well and get the fruits.
9	Juana Maque Huaraya	Is not formally active in the community, due to lack of time and capacity, Due to family responsibilities and machismo she cannot develop her role as Kamayoq, dedicates her time to alpaca rearing. The Kamayoq in Santa Barbara are all related and they work individually or for their relatives, they don't assist the community.

Annex 7: Kamayoq Survey Tables

Educational level attained

Years of schooling	Number	%
Primary	19	35%
Secondary	32	58%
Tertiary	4	7%

Total valid responses	55	
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Age of Kamayog

Age	Number	%
26-30	4	7%
31-35	14	25%
36-40	12	22%
41-45	9	17%
46-50	12	22%
50+	4	7%
Total	55	

Motivation for Taking the Training (55 responses)

(Respondents could choose more than one motive)

Motivation	Number	%
Income	4	7%
To gain new skills	24	44%
To gain social status	13	24%
To gain knowledge	42	76%

Obligation	26	47%
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In what ways have you attended the farmers (55 responses). More than one option possible

Mobile phone consultation	6	11%
Regular routes around the villages	19	35%
Whilst selling inputs	10	18%
Business partnership with farmer	3	5%
Farmer calls you out	30	55%
Emergency call out	25	45%

Typical annual cycle, busy months (58 respondents)

Month	No. Busy during the month
Jan	35
Feb	30
Mar	21
Apr	12
May	13
Jun	15
Jul	7
Aug	4
Sept	3
Oct	14
Nov	19
Dec	12

Income in January

Amount (soles)	Number
Less than 20 soles	10
20-50	10
50-100	7
100-250	3
More than 250 soles	7

Other Kamayoq	12
Friends/Neighbours/Relatives	6
Government officials	10
Municipality	15
NGO	13
Shopkeeper	24

Priority client	Number	%
Poor	2	3%
Poor and non-poor equal priority	47	97%
Those who are best able to pay	0	0%

	Number	%
Cash	38	65%
Reciprocal labour	17	29%
In kind	20	35%

	Number	%
Full time occupation	11	22%
Main, but not only occupation	20	40%
Secondary occupation	19	38%
Total valid responses	50	

Input Sources: NGOs and Agro-Dealers

Get inputs from NGO	15
Pay for supplies from NGO	15
Experience difficulties of supplies from NGO	Often -5 Sometimes – 6 Never – 4

Get inputs from agro dealer store	39
Pay for supplies from store	39
Experience difficulties of supplies from store	Often -5 Sometimes – 21 Never – 13

Additional tables: Household Survey

Primary Source of Inputs on Crops and Vegetables, 2008

Inputs crops and vegetables 2008

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2. Kamayoc	6	11.8	11.8	11.8
	3. Others farmers	1	2.0	2.0	13.7
	4. Shop/dealers	27	52.9	52.9	66.7
	5. NGOs	2	3.9	3.9	70.6
	6. No sources of input of advice	4	7.8	7.8	78.4
	7. Don't practice	8	15.7	15.7	94.1
	9. Others	3	5.9	5.9	100.0
	Total	51	100.0	100.0	

Primary Source of Inputs on Crops and Vegetables, 2003

Inputs crops and vegetables 2003

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Govt. institutions	3	5.9	5.9	5.9
	2. Kamayoc	1	2.0	2.0	7.8
	3. Others farmers	4	7.8	7.8	15.7
	4. Shop/dealers	23	45.1	45.1	60.8
	6. No sources of input of advice	7	13.7	13.7	74.5
	7. Don't practice	10	19.6	19.6	94.1
	9. Others	3	5.9	5.9	100.0
	Total	51	100.0	100.0	

Primary Source of Information on Crops and Vegetables, 2008

Information crop and vegetable production 2008

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1. Govt. institutions	2	3.9	3.9	3.9
2. Kamayoc	10	19.6	19.6	23.5
3. Others farmers	4	7.8	7.8	31.4
4. Shop/dealers	13	25.5	25.5	56.9
5. NGOs	5	9.8	9.8	66.7
6. No sources of input of advice	5	9.8	9.8	76.5
7. Don't practice	10	19.6	19.6	96.1
8. Don't know	1	2.0	2.0	98.0
9. Others	1	2.0	2.0	100.0
Total	51	100.0	100.0	

Primary Source of Information on Crops and Vegetables, 2003

Information crop and vegetable production 2003

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1. Govt. institutions	1	2.0	2.0	2.0
2. Kamayoc	1	2.0	2.0	3.9
3. Others farmers	6	11.8	11.8	15.7
4. Shop/dealers	14	27.5	27.5	43.1
5. NGOs	1	2.0	2.0	45.1
6. No sources of input of advice	15	29.4	29.4	74.5
7. Don't practice	11	21.6	21.6	96.1
8. Don't know	1	2.0	2.0	98.0
9. Others	1	2.0	2.0	100.0
Total	51	100.0	100.0	

Primary Source of Inputs on Livestock, 2008

Inputs livestock and poultry 2008

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2. Kamayoc	16	31.4	32.0	32.0
	4. Shop/dealers	28	54.9	56.0	88.0
	5. NGOs	1	2.0	2.0	90.0
	6. No sources of input of advice	3	5.9	6.0	96.0
	9. Others	2	3.9	4.0	100.0
	Total	50	98.0	100.0	
Missing	System	1	2.0		
Total		51	100.0		

Primary Source of Inputs on Livestock, 2003

Inputs livestock and poultry 2003

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Govt. institutions	3	5.9	6.0	6.0
	2. Kamayoc	2	3.9	4.0	10.0
	3. Others farmers	2	3.9	4.0	14.0
	4. Shop/dealers	30	58.8	60.0	74.0
	5. NGOs	1	2.0	2.0	76.0
	6. No sources of input of advice	8	15.7	16.0	92.0
	7. Don't practice	2	3.9	4.0	96.0
	9. Others	2	3.9	4.0	100.0
	Total	50	98.0	100.0	
Missing	System	1	2.0		
Total		51	100.0		

Primary Source of Information on Livestock, 2008

Information livestock and poultry 2008

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Govt. institutions	4	7.8	8.0	8.0
	2. Kamayoc	18	35.3	36.0	44.0
	3. Others farmers	1	2.0	2.0	46.0
	4. Shop/dealers	13	25.5	26.0	72.0
	5. NGOs	7	13.7	14.0	86.0
	6. No sources of input of advice	4	7.8	8.0	94.0
	9. Others	3	5.9	6.0	100.0
	Total	50	98.0	100.0	
Missing	System	1	2.0		
Total		51	100.0		

Primary Source of Information on Livestock, 2003

Information livestock and poultry 2003

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Govt. institutions	3	5.9	6.0	6.0
	2. Kamayoc	2	3.9	4.0	10.0
	3. Others farmers	5	9.8	10.0	20.0
	4. Shop/dealers	25	49.0	50.0	70.0
	5. NGOs	1	2.0	2.0	72.0
	6. No sources of input of advice	9	17.6	18.0	90.0
	7. Don't practice	1	2.0	2.0	92.0
	8. Don't know	1	2.0	2.0	94.0
	9. Others	3	5.9	6.0	100.0
Total	50	98.0	100.0		
Missing	System	1	2.0		
Total		51	100.0		

Do you receive Crop/Horticulture services from a Kamayoq?

Crop Horticulture Service Kamayoc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	39	76.5	76.5	76.5
	1. Yes	12	23.5	23.5	100.0
	Total	51	100.0	100.0	

Relevance Kamayoc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	8	15.7	80.0	80.0
	2. Average	2	3.9	20.0	100.0
	Total	10	19.6	100.0	
Missing	System	41	80.4		
Total		51	100.0		

Availability, responsiveness, timeliness Kamy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	8	15.7	88.9	88.9
	3. Poor	1	2.0	11.1	100.0
	Total	9	17.6	100.0	
Missing	System	42	82.4		
Total		51	100.0		

Do you receive Crop/Horticulture services from a Private Dealer?

Crop Horticulture Service Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	42	82.4	82.4	82.4
	1. Yes	9	17.6	17.6	100.0
	Total	51	100.0	100.0	

Relevance Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	5	9.8	55.6	55.6
	2. Average	3	5.9	33.3	88.9
	3. Poor	1	2.0	11.1	100.0
	Total	9	17.6	100.0	
Missing	System	42	82.4		
Total		51	100.0		

Availability, responsiveness, timeliness Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	4	7.8	57.1	57.1
	2. Average	2	3.9	28.6	85.7
	3. Poor	1	2.0	14.3	100.0
	Total	7	13.7	100.0	
Missing	System	44	86.3		
Total		51	100.0		

Do you receive Crop/Horticulture services from a Government institute?

Relevance Govt Inst

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2. Average	1	2.0	100.0	100.0
Missing	System	50	98.0		
Total		51	100.0		

Availability, responsiveness, timeliness Inst

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3. Poor	1	2.0	100.0	100.0
Missing	System	50	98.0		
Total		51	100.0		

Do you receive Crop/Horticulture services from NGOs?

Crop Horticulture Service NGO Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	41	80.4	80.4	80.4
	1. Yes	10	19.6	19.6	100.0
	Total	51	100.0	100.0	

Relevance NGO staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	7	13.7	70.0	70.0
	2 Average	3	5.9	30.0	100.0
	Total	10	19.6	100.0	
Missing	System	41	80.4		
Total		51	100.0		

Availability, responsiveness, timeliness NGO Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	7	13.7	70.0	70.0
	2 Average	3	5.9	30.0	100.0
	Total	10	19.6	100.0	
Missing	System	41	80.4		
Total		51	100.0		

Do you receive Livestock services from a Kamayoq?

Livestock Service Kamayoc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	23	45.1	45.1	45.1
	1. Yes	28	54.9	54.9	100.0
	Total	51	100.0	100.0	

Relevance Kamayoc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	19	37.3	67.9	67.9
	2. Average	8	15.7	28.6	96.4
	3. Poor	1	2.0	3.6	100.0
	Total	28	54.9	100.0	
Missing	System	23	45.1		
Total		51	100.0		

Availability, responsiveness, timeliness Kamayoc

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	16	31.4	69.6	69.6
	2. Average	6	11.8	26.1	95.7
	3. Poor	1	2.0	4.3	100.0
	Total	23	45.1	100.0	
Missing	System	28	54.9		
Total		51	100.0		

Do you receive Crop/Horticulture services from a Private Dealer?

Livestock Service Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	38	74.5	74.5	74.5
	1. Yes	13	25.5	25.5	100.0
Total		51	100.0	100.0	

Relevance Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	10	19.6	76.9	76.9
	2. Average	3	5.9	23.1	100.0
	Total	13	25.5	100.0	
Missing	System	38	74.5		
Total		51	100.0		

Availability, responsiveness, timeliness Private Dealer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.Good	9	17.6	75.0	75.0
	2 Average	3	5.9	25.0	100.0
	Total	12	23.5	100.0	
Missing	System	39	76.5		
Total		51	100.0		

Do you receive Livestock services from government staff?

Livestock Service Govt Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	45	88.2	88.2	88.2
	1. Yes	6	11.8	11.8	100.0
Total		51	100.0	100.0	

Relevance Govt Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.Good	4	7.8	66.7	66.7
	2 Average	2	3.9	33.3	100.0
	Total	6	11.8	100.0	
Missing	System	45	88.2		
Total		51	100.0		

Availability, responsiveness, timeliness Govt Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.Good	4	7.8	100.0	100.0
Missing	System	47	92.2		
Total		51	100.0		

Do you receive Livestock services from NGOs?

Livestock Service NGO Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0. No	33	64.7	64.7	64.7
	1. Yes	18	35.3	35.3	100.0
	Total	51	100.0	100.0	

Relevance NGO Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	11	21.6	61.1	61.1
	2 Average	7	13.7	38.9	100.0
	Total	18	35.3	100.0	
Missing	System	33	64.7		
Total		51	100.0		

Availability, responsiveness, timeliness NGO Staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1. Good	10	19.6	66.7	66.7
	2 Average	4	7.8	26.7	93.3
	3. Poor	1	2.0	6.7	100.0
	Total	15	29.4	100.0	
Missing	System	36	70.6		
Total		51	100.0		

Do you pay for Crop/Horticulture inputs from a Kamayoq?

Pay Kamayoc for inputs (excl advice) C and H

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Always	3	5.9	5.9	5.9
	2 Sometimes	3	5.9	5.9	11.8
	3 Never	45	88.2	88.2	100.0
	Total	51	100.0	100.0	

Do you pay for Livestock inputs from a Kamayoq?

Pay Kamayoc for inputs (excl advice) Livestock

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Always	16	31.4	31.4	31.4
	2 Sometimes	11	21.6	21.6	52.9
	3 Never	24	47.1	47.1	100.0
	Total	51	100.0	100.0	

Do you pay for Crop/Horticulture advice from a Kamayoq?

Pay Kamayoc for advice C and H

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Always	1	2.0	2.0	2.0
	2 Sometimes	1	2.0	2.0	3.9
	3 Never	49	96.1	96.1	100.0
	Total	51	100.0	100.0	

Do you pay for Livestock advice from a Kamayoq?

Pay Kamayoc for advice Live

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Always	2	3.9	3.9	3.9
	2 Sometimes	6	11.8	11.8	15.7
	3 Never	43	84.3	84.3	100.0
	Total	51	100.0	100.0	

Annex 8: Photographs of Successful Kamayoq



Sergio Mamani



German Cruz



Freddy Tapara



Felicitas Quispe