

Capitalization of Experiences: Poverty Alleviation in Remote Upland Areas (PARUA)

November – January 2014-2015

Final Report

Michael Jones &

Amphone Chanthamith

*Completed for the
Swiss Agency for
Development and
Cooperation (SDC),
Vientiane, Laos*



Table of Contents

Table of Contents	1
List of Tables	1
Photographs	1
1. PARUA Overview	2
1.1. PARUA	2
1.2. Conditional Challenges	2
2. Capitalization Study	4
3. Comprehensive Development Support	4
3.1. Water Systems	5
3.2. Irrigation	8
3.3. Revolving Goat Banks	10
3.4. Animal Banks for Disadvantaged Households	13
3.5. Paravets	16
3.6. Mushrooms	18
3.7. Birth Assistants	21
3.8. Scholarships	23
4. Conclusions	26
4.1. Prai Participation in District Administrative Offices	26
4.2. Adapting to New Opportunities	26
4.3. Returns on Investment	28
4.4. Unfinished Investment	28

List of Tables

Table 1: List of activities	4
Table 2: Water systems investments	5
Table 3: Irrigation systems	9
Table 4: Revolving goat banks	10
Table 6: Cattle banks for the disadvantaged	13
Table 5: Goat banks for the disadvantaged	13
Table 7: Paravets	16
Table 8: Mushrooms	19
Table 9: Birth Assistants	22
Table 10: Scholarships	24
Table 11: Prai participation in district government	26
Table 12: Return on Investment	28

Photographs

All photographs by Michael Jones & Ye Ver.

1. PARUA Overview

1.1. PARUA

The Swiss Agency for Development Cooperation (SDC) has been funding the CARE International Poverty Alleviation in Remote Upland Areas project, a livelihoods and general development effort from 2003 to 2015. The project was designed to support livelihood security for the Prai ethnic communities in remote areas of what was (at the outset of the project) Xayabuly District in Xayabuly Province. The target area of the project was newly incorporated as Saisatan District in 2009, changing the administrative context for project implementation and general development efforts. During the life of the project, PARUA provided assistance for all twenty-one villages in the district.

1.2. Conditional Challenges

Supporting livelihood development in the target area met with three areas of substantial challenge: 1) Geographic—relating to the terrain and physical remoteness of the location; 2) Social—relating to education, production practices, and general level of community development; and, 3) Administrative—relating to official policy and government assistance. The depth of the challenges is more substantial than those facing most development projects in Laos and should not be underestimated when understanding the value of the interventions. Because of the intensity of these challenges, PARUA has provided an exceptional experience for understanding what activities can and cannot work to support development for remote ethnic communities. Specific challenges faced in the three areas were as follow:

1.2.1. Geographic

- Remote—from markets, from information, from investments, from services
- Difficult terrain—steep, narrow valleys and hills
- At the beginning of the project, villages not connected by roads
- Villages above easy water supplies

1.2.2. Social

- Weak village structures comes from a history of independent household living with little village-level activity; this challenges village-based development activities such as clean water systems, irrigation systems, and other joint asset ownership and management
- General education of the community is lacking and poor understanding of how to engage in development activities
- Prai women have little experience participating in development activities and diminished position in public discussion
- Prai engage almost exclusively in upland rice farming and this is family-centered, rather than village-centered activity; provides little base of experience at village-level organizing of activities
- Recent shift from prioritizing opium production to prioritizing rice production requires new skills and new land uses.

1.2.3. Administrative

- New district established in 2009, brought services closer
- Few Prai with capacity to participate in government services and inexperienced community leadership
- Few community members could participate in development-related decision-making and implementation
- Village resettlement, relocation, or small movements undermined the efficiency and effectiveness of development activities
- Land use planning limited area available for farming.

The overall economic and social conditions within the PARUA target area changed dramatically during the life of the project. The changes were led by establishment of a new district, Saisatan, encompassing the entire project area, facilitating access to services and opening the area to economic development. Access to villages that required a day of walking was improved to a few hours by car from the provincial capital. Health care which required a trip to the capital was now improved with clinics and a district hospital. Elementary schools built strategically throughout the district and a high school improved access to the national education system. The funds invested in the district along with incomes earned by civil servants newly located in the district brought economic advances and new opportunities—especially from improved access to markets and increased scope of agriculture buying.



Prai farmers winnow their rice harvest.

These developments certainly improved PARUA's overall impact potential but also presented complications. Road construction cut water lines installed by the project. Resettlement or village movement interrupted development plans for several villages. New economic activity presented new opportunities, pursuit of which required new activities. Thus the rapid economic and social advances presented unanticipated challenges. The degree to which PARUA could change and adapt to these new challenges helped determine the projects' overall contribution to the Prai community's participation in the larger economic advances taking place in Laos, and determined the success of individual activities.

Establishment of a new district brought administrative decision-making physically closer and improved the prospect that Prai communities could better participate in development discussions such as how to structure agriculture commercial production and how to organize community health and education services. Initially local community participation in such topics was not actively encouraged; even village water user groups were delayed. This has evolved by the very end of the last phase of PARUA: with increasing levels of education and increasing integration within civil services, Prai community members increasingly participate in planning and carrying out development activities in villages and throughout the district. This significantly increases the potential positive impact from comprehensive development support.

2. Capitalization Study

The study team was formed to capture the PARUA experiences and develop these into a set of lessons from which other efforts could benefit. The team was to analyze both the successful approaches and the causes of less successful approaches, highlighting unique community development challenges.

The team first reviewed various documents and reports produced by CARE for PARUA, including documents that preceded the project, establishing the depth of the development challenges facing the Prai communities. The field studies began with interviews with key stakeholders: CARE-related personnel involved in the development and implementation of the project; SDC officers responsible for follow-up and support; and responsible authorities from the provincial and district administrations. The primary field study involved focus group discussions with village participants and beneficiaries, key informant interviews with village and activity leaders, and direct observation of the results of physical activities and investments.

3. Comprehensive Development Support

Key Activities

PARUA implemented a variety of activities, some initiated early in the project were discontinued (such as support for tea and fruit cultivation), others were taken up only late in the project (such as mushrooms and support for birth assistants), and some were implemented throughout the life of the project (such as water supply and livestock banks). The capitalization study focused only on those activities with active implementation, current participation, or remaining visible benefits at the end of the project. Activities not reviewed here were not necessarily unproductive, but simply fell outside of the purview of the review team.

The interventions ranged from those heavy in physical investment (water supply, irrigation, road construction), to those focused on social or human capacity development (scholarships, training for birth assistants). This range of activities supported the beneficiary communities with physical and social opportunities to engage in the rapidly advancing economy and society of Xayabuly Province and Laos in general. The following list is ordered from those heaviest in physical investment to those with exclusive focus on supporting human capacities with activities containing elements of both types of support falling in the middle.

Table 1: List of activities

Number	Activity	Physical / Capacity Investment
1	Gravity-fed water systems and filters	Physical
2	Irrigation for rice paddy	
3	Revolving livestock banks	Mixed
4	Goats For disadvantaged HHs	
5	Cattle for disadvantaged HHs	
6	Paravet	
7	Mushroom	Human Capacity
8	Birth assistant	
9	Education scholarships	

Each of these activities is reviewed in the sections that follow.

3.1. Water Systems

3.1.1. Observations

In every village visited, with every discussion among villagers, water systems were the most appreciated support, were valued most highly among project activities, and were credited with having improved lives more than any other activity. Most of the villages in Saisatan District are situated on ridges and towards the tops of hills, distant from water; as in many villages throughout Northern Laos, villagers, mostly women and children, collected water from streams and springs at significant distance from the villages.

PARUA introduced a new technical innovation to improve the efficiency and quality of the gravity-fed water systems: plastic water reservoir tanks. The tanks require less labor to install, use less gravel/cement/sand (all scarce resources towards the tops of hills), are about equal in cost and can be just as durable as concrete tanks. They can be installed in chains to increase volume. However, they must be kept in shade to ensure durability.

Another innovation, automatic shutoff taps, can save water, and have been used effectively in a few villages. However, in some villages, the villagers cannot maintain these expensive taps and they have become useless; with expensive replacements not available, villagers reverted to the cheap taps available in stores everywhere.

Surprising, considering the high value villagers place on water systems, in every village visited leadership expressed difficulty managing the water systems. They had difficulty collecting, managing, and dispensing a maintenance fund. Organizing work parties to clean and repair systems has proven difficult, with only a few people doing most of the work. Accidents or purposeful actions have cut the supply pipes cutting the water supply or reducing pressure. In several villages, road construction obliterated the supply pipes.



Tap stand with efficient taps

Table 2: Water systems investments

Item	Data
Villages installed (repaired)	12 (3)
Number of HH covered	1,395
Investment (for 15 villages)	571 mill kip
Systems fully functional	9
Villages affected by resettlement/relocation (major repair or loss caused)	5

Perhaps a cause of much of this difficulty has been the delay in establishing water use system committees in each of the villages. The district government delayed approval for committee establishment and the villagers did not have their own management or leadership systems to fall back on, so the water systems were not maintained. Once the committees are formed and additional training provided, at the very end of the project, villagers may feel greater ownership over the systems and may better maintain them. However, the failure is likely more rooted in limited social capital and poor village-level coordination than it is in any specific missing committee

function. At the end of the project, only nine of fifteen systems established or repaired remained in good working order.

Personal profile: Mr. Onkham Geowhavong

Mr. Onkham has worked with CARE International in Laos for XX years and with other development organizations for over two decades before this. He has worked throughout Laos, from North to South. He has focused on helping communities build sound water systems and takes pride in the quality of his work and the benefits this brings to communities throughout Laos. With the PARUA project, Mr. Onkham worked closely with district personnel and community members to improve the technical approaches to both water systems and irrigation systems. Together, they switched from the labor- and material-intensive cement tanks to the plastic water tanks. This facilitated consistent construction quality and reduced the maintenance burden. Mr. Onkham has also worked on improving the construction of the water intake systems, introducing natural filters and grades to keep sand and sediment out of the water pipes. This further reduces the need for maintenance and improves the durability of the system. His innovations are part of a newly-written set of national guidelines on gravity fed water systems.



Mr. Onkham and buried plastic reservoir tank

3.1.2. Take-away lessons

In low social capital situations, heavy investment in community infrastructure becomes risky. Practices that are precursors to effective collective asset management—such as regular community meetings, consensus decision-making, transparency, division of responsibility, basic trust, and regular information sharing—are all poorly developed in many Prai communities. These are only improved through incremental practice, regular follow-up, and sensitive support. Investing hundreds of millions of kip in water systems should be accompanied by similar investment in the capacity of villagers to organize and work together to manage these investments.

Two options recommend themselves to resolve this potential difficulty.

Option 1: Form the water use committee before beginning any construction. This committee should be elected by the entire village, include women and men, and be responsible for 1) building consensus around water tap sites, 2) organizing construction work parties, 3) overseeing technical repairs, 4) ensuring maintenance of taps, and, 5) collecting and managing maintenance fees as agreed with all the villages (and other responsibilities as determined collectively). Forming the committee before construction and having them play a significant role in design and mobilizing village participation will help them take responsibility for oversight and maintenance of the system going forward.

Option 2: Set up an enterprising individual or team as a private contractor for maintaining the water system. The person(s) would a) collect fees according to an agreed rate (lower for poor HH) and, b) manage the funds to both compensate his/her own time, and purchase materials needed to maintain the taps and system. Transparent accounting would build trust and confidence among community members and the entrepreneur. The village would still need an elected committee to oversee and receive reports. The committee would also help resolve potential disagreements and follow-up with villagers not regularly making payments. The committee would work with the entrepreneur and

district officials for major repairs if the need arises. This remains an untested solution in Laos that holds promise but presents risk as well.



Villagers using water systems: at left, makeshift hoses bring water from a nearby steam into the village; below, simple taps are readily replaceable though less efficient than automatic shutoff taps.



3.2. Irrigation

For many reasons, support for irrigated rice paddy is popular throughout Laos. It is uniquely attractive in the North as a way to help farmers replace upland rice farming with paddy rice farming, in keeping with government strategy. Paddy rice farming, where done well, is more labor and land efficient, less risky, produces more consistent yields, and is generally more manageable than upland farming. However, rice paddy production requires different skills than upland rice farming. Many of the technical skills can be taught in basic training and learning processes. Paddy management, especially irrigated paddy systems, however, requires strong community organizational effort, a practice difficult to build capacity simply through training: canal maintenance, canal repairs, and water sharing requires close coordination and cooperation among farmers. Each farmer also needs to manage his paddy according to water schedules. These are all new skills that require time to develop if the collective water resource is to be used effectively.



Satan villagers examine their repaired irrigation intake.

In the PARUA target area, farmers have little history of jointly managing productive water resources. Farmers also generally manage their upland fields as a family unit with little if any village-level coordination and planning (in contrast to some upland farming cultures that have elaborate village-level planning for successive seasons of upland rice). This creates a need for new learning in cooperation and coordination, things that take time and practice like any other skill.

3.2.1. Observations

Villagers did not express strong commitment to the irrigation system compared with other activities, especially compared to the water systems, partly because only a few households could benefit and the community had already committed to upland rice farming for many generations. With little experience at paddy rice farming, the farmers did not coordinate cultivation and did not coordinate for cleaning and maintaining the irrigation system. Few villages have area amenable to irrigated paddy and thus little initiative could be built behind paddy cultivation culture. PARUA had to invest more funds in reconstructing the irrigation intake in Satan village because poor maintenance caused the intake to wash out after strong rains. In addition, what paddy is irrigated is not fully utilized by

farmers: no dry season paddy is cultivated and no vegetable production is undertaken. For these reasons, the project made a substantial investment for a smaller than expected benefit.

3.2.2. Take-away lessons

While technically attractive for many reasons, moving upland farmers into rice paddy areas requires more than technical change. Steps need to be taken to ensure the community is ready to maintain and use fully an irrigation system before taking a decision to support construction. A project can improve the prospects for good use and maintenance through the following steps:

- 1) Proposals for building irrigation and expanding paddy should come from community members rather than from project leaders.
- 2) Consultation with the whole community should ensure general favorability and commitment and more equitable sharing of benefits.
- 3) Involve the water user group and committee in construction planning and implementation.
- 4) Once construction is complete, project personnel need to work with the irrigation water user group supporting good farm and system management and coordination.

Table 3: Irrigation systems

Item	Data
Villages	3
Beneficiary Households	71
Area	33 Ha
PARUA investment	117 million kip (repair in Satan, and build in Sisaithong). Other data unavailable

3.3. Revolving Goat Banks

The district development strategy focuses on livestock raising and tea cultivation as the primary paths out of poverty. Revolving animal banks have proven effective in Laos to introduce new animals to villages or areas that previously lacked that animal or to provide additional households the opportunity to raise such animals. However, animal banks have a mixed history as a tool for improving husbandry practices. Goats are a practical choice for introduction as they are easy to care for, mostly find their own food, and reproduce and reach full size quickly.

3.3.1. Observations

In Poulern Village, almost 40 households have received goats through a goat bank and the bank was about to revolve to a third group. The market for goats was strong, with traders visiting all the villages regularly to buy goats; a full-grown goat fetched 700,000 to 1.2 million kip, a healthy profit for farmers with few other marketable outputs.

Table 4: Revolving goat banks

Item	Data
Villages	7
Participants, 1 st round / 2 nd round	135 / 82
Number of Goats provided (Phase III)	141 (6 billies) animals
Investment in Goats (only for phase III)	70.5 million kip
Goats produced for members	105
Estimated value of goats produced (500,000 per head)	52.5 million kip (74% ROI)



Villager tends his goat

Villagers prefer to work at the individual or HH level when raising goats, rather than tending them as one big herd. This man leads his two goats out of the shed to grazing pasture for the day.

PARUA encouraged the villagers to raise the goats in a single spot, attending them in turns, ensuring vaccinations and providing improved forage. However, the villagers have taken to raising the goats in small groups or even as individual households. This is more in keeping with the family-centered Prai culture but may pose problems: 1) more difficult to follow the health of the animals closely, 2) may lead to more conflict as goat—not restricted to a specific area—damage other crops, 3) difficult to vaccinate consistently as some animals may not be located when the paravet comes to administer vaccines, 4) expose the animals more to predators, thieves, and disease, and 5) may limit the overall size of the herd village lands can manage sustainably.

The goat banks show signs of success: The bank revolves regularly to new HH with previous HH raising and selling the offspring (or keeping them to start independent herds); the total number of goats has increased and will have doubled the total number raised in the villages; villagers know the techniques critical to ensure healthy goats and most practice these, including paying for regular vaccinations and keeping animals penned during heavy rains. The banks have produced over 105 goats for the members, worth over 52.5 million kip, a 74% ROI. This includes only direct offspring; second or third generation animals are not counted. If all profits were included, households surely earned more benefit than the initial cost of the investment.

The goat banks have served their purpose well: they have introduced new income-generating activities and positioned many HH for economic advancement. Presently, many villagers would rather raise cattle than goats because the former have fewer risks: goats are more prone to disease, especially during the rainy season, tend to get sick and die in large numbers, are difficult to treat, and require more attention to fencing (goats are good at climbing). This is by no means a poor reflection on the project choice of supporting goat banks: it reflects success in improving the economic status of many HH to the point where they can move on to a more lucrative venture. Many HH continue to raise goats as they appreciate the steadier income stream and faster reproduction than cattle.

3.3.2. Take-away lessons

Goat banks effectively introduce goats as an income-generating activity to households that did not previously raise the animals; they also ensure these households have ownership over the animals. Over 217 households have this new opportunity because of the PARUA goat banks in the last project phase alone, and more than double this number for the entire project. However, as is the pattern in Laos, using animal banks to change husbandry practices is only partially successful: families still raise goats loose on the hillsides, the goats eat only natural vegetation (not improved forage), but most goats are vaccinated and most are kept in sheds during heavy rains to avoid illness. Despite this progress and the advantages, many villagers still prefer raising cattle over goats. Thus goat banks can be seen as an intermediate step, providing the resource to help households raise larger animals. It is a positive reflection on the intervention if participants eventually can raise cattle, just as it reflects positively that some of the participants are able to grow their own herd by twenty or more goats.

Personal profile: Mr. Bieng Bin, of Poulern village

Mr. Bieng's household has experienced dramatic improvement from cooperation with PARUA. In 2010 he received two kids from the goat bank and decided to raise these as breeding stock to develop his own herd of goats. He reached fifteen head of goats and began selling. Income from



goat sales enabled him to purchase roofing tin for his house and has recently purchased a small cow to raise. In the early 2000s he trained with PARUA as a paravet. He took this task seriously, learning the proper vaccination technique and schedules for goats and cattle. Villagers in his own village were pleased to have him improve the health of their animals and they began paying small amounts for his services. He now has a good career and is able to support his family on income from animal raising and paravet services.

Mr. Bieng (center) and fellow paravets

3.4. Animal Banks for Disadvantaged Households

PARUA established livestock banks—goats in 2 villages, cattle in 5 villages—to provide benefit for disadvantaged families. Disadvantaged families were described as those with few members capable of farmer work, female-headed families, elderly families, or families with disabled members. These banks were an innovative attempt to establish a village-level social security system. The goats or cattle would be tended by an individual compensated for his effort. Beneficiaries would receive a share (45-55% depending on discussions) of the profits. The endeavor would be overseen by a committee comprising village leadership, also compensated.

Table 5: Goat banks for the disadvantaged

Item	Data
Villages	2
Beneficiary HHs	44 (33 remaining)
Number of goats provided	120 (including 4 billies)
Total investment	192.7 million kip
Income from sale of 115 goats	27.0 million Kip (14% ROI)
Income for beneficiaries	11.25 million kip
Income per beneficiary	0.256 million kip

Table 6: Cattle banks for the disadvantaged

Item	Data
Villages	5
Participating HH	101
Cattle provided	40
Cattle investment	130.0 million kip
Income from sale of 15 animals	27.25 million kip (21% ROI)
Income for beneficiaries	13.6 million kip
Income / beneficiary HH	134,000 kip

3.4.1. Observations

The goat banks to help disadvantaged people ended up providing minimal benefit to the intended families. This is partly due to the distribution of profits among several parties: the worker responsible for raising the goats (40%) and the oversight committee (5%) in addition to the intended beneficiaries (55%). But more fully due to the lack of participation in oversight and management leading to poor husbandry practices and poor follow through. The lack of follow through meant not all animals were regularly vaccinated, ill animals were not quickly treated, animals were not consistently sheltered during rain storms, and animals disappeared. Of a 45 reported animals in the Poulern Village goat bank, at time of the study visit, only fifteen animals remained. Beneficiaries reported receiving only 108,000 kip in all of 2014. This makes for a lousy return on investment. We can credit CARE with using this experience as a learning opportunity, and discount the investment (fence, water tank, etc.) as funding a center to study improved goat raising practices. However, without those investments the banks would have performed even more poorly and the minimal financial gain was hardly an incentive to members and the community to continue the learning effort.

The cattle banks for the disadvantaged were a different story. In Houy Salot village, beneficiaries reported with enthusiasm their experience and the village leadership explained their long-term vision for the village social security system. The villagers managed the cattle for this bank in a central location but built the fence themselves. The beneficiaries received offspring instead of cash payments. The village paravet administered regular vaccines to the cattle and the herd was growing from less than ten provided to over twenty at the time of the study.

3.4.2. Take-away lessons

To ensure development progress, incremental steps prove more manageable than new complex systems. While the introduction of a goat bank to benefit disadvantaged members of the community showed potential, the combination of many aspects rolled into one activity proved too much: goats

about which community members were not too excited, joint raising which contradicts traditional practice, and sharing benefits among different interest groups.

The Poulern village goat tender and large physical investments PARUA made to support better goat management.



Strong village leadership makes more progressive steps possible as they can help maintain consistency through difficult transitions. Tight follow-up is also necessary, whether from village leadership or project personnel, to ensure implementation follows technical standards which secures the ultimate benefit from the activities. Leadership can also ensure fairness and equity, especially in the absence of strong member participation and

where members may lack the literacy and capacity to examine decisions and assert their own interests.

A key factor for the success of the cattle and the failure of the goats was the provision of offspring as benefit, rather than distribution of cash after sale. While cash may appear more immediate—members may have to wait a year or more for an offspring—and objectively preferable, the villagers expressed that the receipt of animals empowered them and their families providing a critical investment for future economic growth, further investing them in the entire effort. This may contradict an operating assumption that disadvantaged families had insufficient labor, but evidence suggests they will manage if the asset is considered valuable—cattle are—so a social security system that produces animals to deliver to poor families as ‘seed stock’ for their own herds appears viable.

Rice banks are a simpler step towards a viable social security systems with successful examples throughout the North. Village rice banks build on traditional village practices—lending rice to families who’ve suffered poor harvests—with incremental improvements such as better storage, clear and transparent documentation, benefit sharing, and require no new production.

Personal Profile: Mr. Bounlien, the Houysalot village leader

Mr. Bounlien has a vision for a continuing village social security system. Of critical importance to this village's success with the bank was the active leadership of the village council, especially Mr. Bounlien, the village head, and the paravet. They helped evolve the bank system from a cash benefit to taking turns receiving calves, in direct response to member interest. When asked whether it would be a good idea to distribute all the cattle and discontinue the bank, though members showed some interest in this idea, they all agreed when Mr. Bounlien stated how this would be a short term benefit that would undermine their capacity to help families in the future: 'while some families may move out of poverty, others may move in; with this cattle bank we have a way to help all the families'. His vision for a village-level social security system is a strong indication that this cattle bank has a good future in Houysalot.



3.5. Paravets

PARUA supported thirty-seven individuals from twenty-one villages with a series of vaccination and basic veterinary care training sessions. While all learned basic practices, only a few could carry out quality service. To date five individuals have turned their skills into a livelihood, each providing services to four or five villages for an affordable fee. Now all twenty-one villages have someone come to vaccinate animals on a regular schedule. The other paravets also work to organize vaccination days and follow-up with information gathering and reporting.

3.5.1. Observations

All five entrepreneurial paravets describe their experience as a new livelihood (complementary to, not a replacement for, farming activities), explaining that they earn sufficient income to improve their homes and make other important purchases. In one season, each person can earn around 4-5 million kip (three seasons per year).

The five entrepreneurial paravets formed their own network to share information, skills, access to inputs (medicines and vaccines), and training opportunities. They have, in times of disease outbreak, communicated with each other providing advance warning and opportunity to prepare medicines and vaccines to lessen the impact. The network is able to source medicines and vaccines in the district center, in the province, or even in Vientiane when necessary. The network has been essential in reducing the incidence of gastro intestinal disease among cattle and goats. While exact figures are not available, all villagers report better health of their animal herds.

‘Free Vaccinations’ undermine professional services: For national vaccination day, district agriculture offices often vaccinate animals for free. In Saisatan, this has disrupted the development of professional veterinary services as it undermines the perceived value of vaccinations imparting the attitude that these should be free. Creating further impact is that only some animals in some villages are vaccinated but it creates the impression among all farmers that they should not have to pay for veterinary services. The paravet network, along with PARUA leadership discussed with the district and provincial agriculture authorities to change practices and not to provide free vaccinations. The district has agreed in principle.

3.5.2. Take-away lessons

Entrepreneurial paravets offer a critical service to livestock farmers in a role complementary to the District Agriculture and Forestry Office (DAFO) services of education, promotion, and securing a supply chain. That these private service providers can earn a decent income from fees only helps improve the quality and sustainability of services. This should be a model for other services critical to social and economic development.

Linking the paravets in a self-managed network is another critical innovation. Networking has many benefits for the paravets themselves and the farmers they serve: it improves their efficiency—ordering supplies in bulk; helps them access new knowledge and materials; provides advance information about disease outbreaks; and enables the paravets to enter discussions with district officials about service improvements.

Free vaccination campaigns undermine the development of professional services and delays full coverage of vaccines. Budgets available for free vaccinations can be better spent on vaccination

Table 7: Paravets

Detail	Data
Number trained	37
Villages served	21
Investment from PARUA—2 vaccination centers	10 million kip
PARUA Investment— Materials for 37 trainees	55.5 million kip
Benefits from Vaccinations	All villages increased vaccination rates
Livelihoods for 5 paravets: During vaccination season (2 X per year) Can earn upwards of 1 million kip per village, 4-5 villages per para-vet	

promotion campaigns and other educational efforts. They could offer reduce priced vaccinations through the paravet network further developing sustainability and interest among farmers.

As farmers in the district advance in their own skills and knowledge, they may have less need for simple services such as vaccinating cattle (eventually, farmers should manage this themselves); they may have more need for herd management, feed planning and development, and market development. This presents an opportunity for the paravets to advance their skills and offer more meaningful services that help farmers further increase productivity and profit. Their position as entrepreneurs, if combined with access to new ideas and specialized training, could position them well to meet these and other emerging farmer needs and contribute to greater district economic development.

Personal profile: Mr. Santi, of Paklong village

Mr. Santi is a key member of the paravet network and has helped his village treat and reduce animal diseases. In October of 2014, in Paklong Village, 13 cattle died of 'tou hom luat' (a form of septicemia). Mr. Santi, the local entrepreneurial paravet treated 190 animals at the early stages of the disease, preventing further demise. He was able to advise other paravets in the network who informed nearby villagers not to allow their livestock into the area, preventing the further spread of the infection. This kind of quick response to outbreaks and advance warning makes the active paravet network invaluable to commercial livestock husbandry and economic development for Saisatan District. His family is now not lacking for basic necessities. He has been able to purchase clothes, cooking implements, and other basics of life. Below he displays the project-provided ice-maker used when preparing to transport vaccines.



3.6. Mushrooms

PARUA invested 110 million kip enabling twenty-two farmers in six villages to produce mushrooms for local markets. Expenses included an array of mushroom cultivation material—from buckets and tarps to special inoculant-growing kits—as well as the cost of training sessions. Most of the farmers successfully produced and sold mushrooms for at least one season, indicating this is a possible new livelihood activity for these villagers.



Mr. Loey in Paklong Village harvests his mushrooms. He is on his second season for mushrooms with 2,200 bags

3.6.1. Observations

Mushroom production is easily learned and managed by a farming household. Women do much of the preparatory work—mixing straw, lime, and inoculant and packing the mixture in special bags. Farmers report sharing the daily tasks of watering and harvesting. Mostly, farmers sell the mushrooms at their own doorsteps to passers-by, and they report selling almost all they produce.

An average mushroom-producing household reportedly earns 1.7 million kip in a season. The seasonal investment is up to 700,000 kip. Good management for the three month harvest period can yield an income of over three million kip.

PARUA provided substantial material investment for each household, including paying for the mushroom shed construction (not just materials) and others. This elevated the cost of the activity and reduced the return on investment. If villagers were committed from the outset of the activity, the financial investment could have been less.

Villagers did not have an opportunity to study market opportunities before beginning production. This disadvantaged them when exploring other markets after production: in example, a farmer took six kilograms intending to sell in the provincial capital, Xayabuly, only to find the market already saturated. It also missed the chance to build interest and commitment before initiating the activity.

Four villagers are able to produce inoculant from spores, an impressive technical task. This shows the payoff from careful follow-up and monitoring. This can be a value-added local service increasing local economic benefit from the activity.



Mr. Ekgeow shows the inoculant case and product he sells to other villagers.

3.6.2. Take-away lessons

As with many farming activities, careful management can dramatically improve efficiency and income, ensuring greater income and return on farmer investment. Average care will yield average benefit, with farmers covering their costs and generating some profit.

Studying the market and knowing the boundaries and opportunities before beginning production would allow the villagers to tailor production to market needs; in this case, to local demand. Understanding market opportunities before production can also improve villager commitment, allowing the project to reduce its per-household investment in materials and increasing the villager interest and attention. Ideally, villagers can study the market opportunities for a range of possible products before settling on producing one such as mushrooms. This will empower farmers to make their own informed choices and allow them to take more responsibility for outcomes.

Table 8: Mushrooms

Detail	Data
Villages	6
Households	22
PARUA investment	110 million kip
PARUA investment / HH	5 Million kip
Total income generated (% return on investment)*	38.17 million kip (35% ROI)
Avg. Inc. Per HH *	1.7 million kip

Building capacity of a few enterprising villagers to produce inoculant further develops the local value chain and helps ensure affordable inputs. However, it is also important for local farmers to know regional sources of inoculate in case their local supplier discontinues or cannot meet demand.

Group cooperation or networking could help with both these functions: coordinating for market engagement and securing additional supplies. For example, if their own market analysis shows opportunities for other varieties of mushrooms, group representatives could help access the know-how and sources of other inoculant. Furthermore, creating opportunities for sharing and knowledge dissemination could increase the number of producers in the area. This could, however, complicate marketing as it is not clear the market can absorb substantial increased production.



Women do much of the repetitive labor of preparing the bags for mushroom production. Only men attended training.

3.7. Birth Assistants

PARUA provided funds for seven young women (four completed, three in training at the time of the study) to attend birth assistant training at the district hospital. Hospital staff provide theoretical instruction and practical experience about important topics: recognition of early warning signs of difficult births so the woman can get to a hospital quickly, preparation of a clean birth area to prevent disease and contamination, cleaning and maintenance of birth materials (towels, scissors, etc.) for similar reasons, and proper diet and nutrition for an expecting and new mother.

Personal profile: Ms. Ping, from Santeh village



Ms. Ping trained as a birth assistant and is active in delivering support to local mothers. She is 22 years old, and did complete primary school. Prior to receiving birth-assistant training at the district hospital, she was the village women’s union representative and worked on the family farm. Since training, she has helped four people give birth resolving two slightly difficult cases. Her family, especially her older sister, is very pleased that her sister has received training and can be of assistance to women in her village. In representing the birth assistants in front of a meeting of district and provincial authorities, she stated emphatically that she intends to continue this work which is of great importance to the women in her village.



Ms. Ping’s home with family looking on.

Her family expressed strong pride in their daughter’s accomplishments.

3.7.1. Observations

Birth assistants are able to encourage women at risk to deliver in hospitals. Prai women greatly appreciate receiving health and birth support from other Prai women speaking the same language and understanding their culture. More village women are ready to seek services from the birth assistants than they were willing to seek services from the clinics or the district hospital.

Selection of birth assistants was neither fully participatory nor transparent, with resulting selection questionable: some of the trained birth assistants may be too young with too little social acceptance for women to avail of their services. When the trainees graduated, there was little announcement nor effort to encourage villager use of the new services available.

Birth assistants are discouraged from accepting or charging fees. It is an open question of how to maintain the interest of the birth assistants in continuing education and skills development, and the most effective women may not serve in this profession for long in the absence of other incentives.

3.7.2. Take-away lessons

A network of birth assistants could have benefits similar to those of the paravets: help each other with skills development, stronger assistants could help weaker assistants when women are in labor (peer mentor), and discuss with the district health officials about improving women's health services.

The sustainability of birth assistant services will depend on an effective incentive system. To attract capable individuals into this service, they need to expect and receive appropriate compensation. Just as the opportunity to earn incomes has enabled quality professional veterinary services in the district, women's health services could dramatically improve with an opportunity for strong women to provide quality services at a decent profit.

Although there are reasons to carefully consider support for a birth assistant program—fears of discouraging women from seeking qualified services, fear of putting the birth assistants into situations beyond their capacity, fears of liability—the services birth assistants can provide are clearly beneficial. In the reality of many villages in Laos, women have no trained assistance at times of birth and they are unlikely to go to a hospital for labor. Trained birth assistants provide a benefit right after training and, if they continue their education through training and seminars, will only improve their capacity to support women in childbirth.

Table 9: Birth Assistants

Detail	Data
Number of assistants trained	4 (+ 3 currently in training) (6 villages already covered by clinics, leaving 8 villages uncovered)
Duration of training	3 months practical training at district hospital
Impact	<ul style="list-style-type: none"> • Recommendations for early transfer to hospital when difficult births are anticipated • Cleaner birthing area (no more birthing in the kitchen) • Cleaner materials (for cutting umbilical cord and swaddling newborn) • Reduced pressures for extreme food 'taboos' and encouragement for less work and more recovery time.

3.8. Scholarships

More than 90% of the civil employees in Saisatan District come from outside the district and are not from the Prai ethnic group. District leaders indicate that there simply are not sufficient numbers of local people who could meet standards and have the skills to perform the tasks of civil service, a clear indication of the lack of education among villagers in Saisatan District.

PARUA provided scholarships to help thirty-one people (fourteen women) to further their education: middle school, highschool, vocational school, and diploma college. These students have studied electrical work, construction, teaching, and nursing. Ten students have graduated and six have been awarded government positions in Saisatan District (leaders indicate positions for the other four will soon be accepted into civil service).

The government's scholarship system does not meet the urgent and proportionately large needs for educating Prai students though the government schools can accept students with funds.



Women studying at Luang Phrabang Teacher's college and Medical School (2)

3.8.1. Observations

Generally, families are in favor of their children gaining advanced education. However, some families are hesitant, for various reasons, to let their girls continue education. Once girls have advanced their education and demonstrated to others the potential life improvements this can bring, families are more supportive, agreeing even to allow younger siblings to seek advanced education.

We observed Prai students enthusiastically studying with teachers, supported by the scholarship fund, from their own ethnic group: the students can easily understand the teachers for cultural and language

reasons, improving their learning potential. All students on the scholarship fund were in good academic standing, without a single person held back or failing a course. Students interviewed express a determination to study and succeed, valuing their unique opportunity.

Table 10: Scholarships

Detail	Data
Total number of students	31 (14 women)
Current	21 (14 women)
Graduated Middle and higher diploma	10 (0 women)
Women students	3 in middle school, 11 in technical college
Working for GOL	<ul style="list-style-type: none"> • Teachers—3 • DAFO—2 • Clinic nurse—1 • Graduated teachers without a position yet—4

Personal Profile: Ms. Kheum, nursing student

Kheum sent herself to the Xayabuly Ethnic High School and graduated. After graduation, she returned to her village for two years, afraid she had reached an education dead-end. The PARUA scholarship offered her just the opportunity she was hoping for: now she is in her final year of nursing studies and her younger sister is in her last year of preschool teacher training. Both intend to return to their district to work in their chosen fields. Their parents are thrilled that their children received scholarships and are able to complete studies. They are particularly pleased that on graduation, their children can come back to the district and have careers with salaries; their children will not have to live in poverty depending on subsistence farming like their parents.



Ms. Kheum

Along with her younger sister, sharing their experiences working hard to get an education.

3.8.2. Take-away lessons

Scholarship support is a valuable addition to any development effort and should be considered for any location where local people have low capacity and experience and are therefore not able to participate in development opportunities.

Many ethnic groups will have limitations on women and girls continuing studies. With determination and continuing effort, scholarship funds can help expand these opportunities. A few successful examples can help inspire new students to follow in their footsteps. Project leaders will have to insist on women's participation, persist in efforts to recruit women, and share success to build an atmosphere more supportive of women's engagement.

A network among both graduates and current scholarship recipients could be a vehicle for mutual self-help. Graduates can help current students improve study habits and understand comportment consistent with good academic performance. Earlier graduates can help successive graduates with the process of entering civil service, helping introduce them to the employment section and following up with the appropriate persons. And all students, linked in a network, can promote further education in their villages and district.

4. Conclusions

4.1. Prai Participation in District Administrative Offices

One of the clearest indications of Prai participation in development is their employment by the government. Putting aside questions of rank, authority, and salary differentiation, we can simply look at participation as government employees to see how they are doing. The following chart shows very clearly that in the four key line ministries, those that are most relevant to carrying out development activities in the villages and those with which PARUA collaborated, the Prai makeup of the overall government administration remains appallingly low.

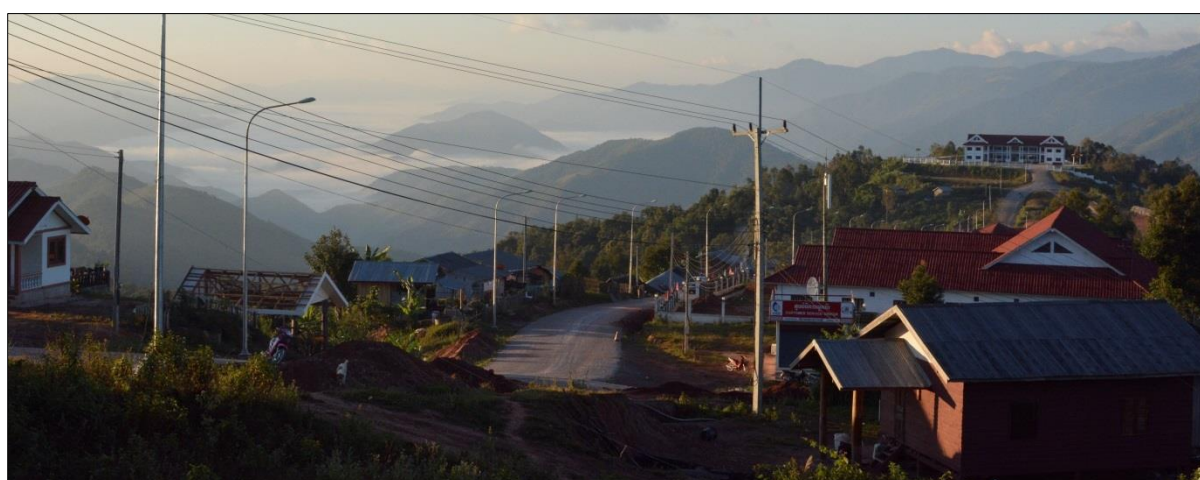
Table 11: Prai participation in district government

Department	Prai / total
Health	4 / 49
Education	27 / 64
DAFO	3 / 33
LWU	0 / 6

Participation in government employment is merely an indicator of low Prai participation in decision-making and there are many reasons for this low representation:

- Low education of Prai community members
- Attraction (or syphoning-off) of the best community members to more attractive careers in the provincial or national capital
- A recruitment and seniority system that disadvantages community members with little experience
- Few opportunities for Prai members to develop the skills and experience needed to perform well in civil service positions.

Similarly, there are many activities and various forms of assistance that will help the Prai communities develop and better participate in opportunities, present and future. The PARUA project’s mix of various activities improve the capacity of community members to engage. In particular, the scholarships can help Prai community members access the opportunities of civil service. PARUA activities helped, but there remains a substantial work to do before even this one indicator of participation, government employment, will substantially improve.



Saisatan District Offices

4.2. Adapting to New Opportunities

As mentioned in section 1.2, during the project lifecycle, the social-economic conditions in the district changed dramatically during the project lifetime. These changes presented new opportunities as well

as some new difficulties for the project, and required adaptation in project strategies. The new developments meant that PARUA did not need to focus so heavily on physical infrastructure and basic services—the new district government with roads, schools, and hospitals could fill this responsibility—but rather shift to supporting the capacity of the Prai community as a whole and individuals as well to take advantage of new opportunities and deal with new risks.

In part, the project responded well: introducing support for commercial production for local markets (mushrooms and livestock) and support for birth assistants that could work to extend the reach of the hospital and clinics. In part, PARUA was not able to respond quickly enough: it did not focus on the networks and group functions that farmers need when they engage in commercial production and wider markets; it did not build community collaboration capacity over joint resources such as water and irrigation; it did not manage to develop value chains, improving the value-added position of Prai farmers; and it did not build villagers' understanding of new economic opportunities. There were not failures to deliver planned services; the project did provide valuable support. Rather, the changes presented opportunities for new types of services that PARUA did not fully realize.



The kinds of activities necessary to respond to new economic opportunity would have involved strong focus on farmer and villager group development and capacity building. These types of activities were not stressed within the original project design and, had they been pushed by project advisors, might have met resistance from an administration not yet ready to support these new approaches to community development.

At the same time, PARUA did adapt. The added support for training birth assistants, the networking among entrepreneurial paravets, the support for women's scholarships in addition to men's scholarships, and the determined effort to support a village-level social security system (animal banks for disadvantaged households), all helped build social capital and the capacity of the Prai people to engage with new opportunities.

4.3. Returns on Investment

Which activity was the most important, the most effective? Which was the least effective and the least important? In the view of the capitalization team, each of the activities had its own strengths and weaknesses. Improvements in any particular activity may have increased effectiveness, but each of the activities had recommendable performance and all are worth studying and considering for future development assistance. The following chart shows the kind of economic returns that were gained for specific income-generating activities, comparing the direct investment in materials (not including the time of staff and government officers, the operating costs of delivering support, nor the administrative costs of running a project) with the income generated by village participants in the activity.

Table 12: Return on Investment

Activity	PARUA Investment	No. HH	Investment / HH	Income Earned	Income / HH	Return on Investment
Revolving Goat Banks	70.5	217	0.32	52.5	0.24	74%
Goats for Disadvantaged	192.7	44	4.38	26.85	0.26	14%
Cattle for Disadvantaged	130	101	1.29	27.25 (13.6 for beneficiaries)	0.13	21%
Paravet Enterprise	65.5 (Includes 2 vaccination centers)	37	1.77	N/A Sales figures are not reported by the paravets; analysis suggests 10 million kip annually for each of 5 paravets = 50 million per year.		
Mushrooms	110	22	5	38.17	1.7	35%

Notes:

- All currency figures in millions of kip.
- Mushroom income calculated only for 1st production season, will be higher over first year.
- Return on investment roughly calculated as reported income divided by the PARUA investment in capital and inputs.

4.4. Unfinished Investment

The PARUA project remains an unfinished investment. There are clear indications that the support made a definite contribution to people's lives. The range of activities well supported many community members to take advantage of new economic opportunities. However, the Prai community is far from fully engaging with local development activities—as both beneficiaries and actors. They remain disadvantaged in terms of language skills, general and technical education, understanding of market opportunities and how to orient production for these, and most importantly, the community lacks the organizing experience and skills to coordinate their productive actions for effective entry into regional markets and effective participation in development dialog. Government leaders from the province and district remark that development support for Saisatan District remains a high priority. However, they also point to lack of resources and lack of specific skills in key areas of technical assistance. They

remain highly welcoming of continued cooperation in delivering additional support to the Prai community in Saisatan District.

