

Goat Rearing - A Compilation of Case Studies from Khargone, Madhya Pradesh



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This document is the result of field visits undertaken by Ms Ruchita Khurana, SA PPLPP, in District Khargone, Madhya Pradesh, where SA PPLPP is supporting a pilot project, being implemented by the Aga Khan Rural Support Programme (India), Madhya Pradesh, with the objective of demonstrating an integrated approach to strengthen goat based livelihoods in a selected cluster of 10 villages in the Jhirniya Block.

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Introduction

Based on the findings of a baseline assessment survey¹ (in October 2013), and a project proposal from the Aga Khan Rural Support Programme (India) (AKRSP (I)), the South Asia Pro Poor Livestock Policy Programme (SA PPLPP) commenced support to a pilot initiative in March 2014; the objective was to demonstrate an integrated approach to strengthen goat based livelihoods in a selected cluster of 10 villages² in the Jhirniya Block of District Khargone in Madhya Pradesh. For the baseline, 2 non-project³ villages were also selected for collection of counter-factual data to enable correct assessment of project impact at the end of the support period.

The major activities being implemented under this pilot initiative include: (i) improving the community's knowledge base related to goat rearing; (ii) convergence with ongoing government programmes and support for improved housing and feeding practices; (iii) capacity building of, and ongoing support to community-based animal health care workers (*Pashu Sakhis*); and (iv) reducing mortality rates among both adult and kid goats through the establishment of a community-led and managed system of preventive vaccination and health care, and, thereby, enabling goat rearing to develop as a sustainable livelihood activity for resource poor tribal households in the region.

As part of the project monitoring and assessment system, a set of case studies was documented in February 2014, including four goat-rearing households from project villages. The findings and conclusions from the case studies are outlined in this report.

Methodology

From the 10 villages in the project cluster, five villages (Piperkhed, Gaibeda, Muramiya, Saka and Abhapuri) were selected initially for listing of cases. Two non-project villages (Nankodi and Tigriya), which were also part of the baseline household survey were also included. In each of these villages, information was collected from 2-3 goat rearing households through personal interviews, participant observation and focussed group discussions. A total of 16 households were visited for preliminary discussions and short-listing of cases for detailed study. A listing of all these households, providing details of their livestock assets, source of livelihood, income, and so forth is placed at Annexure 1. Detailed case studies were undertaken in four households based on the following selection criteria:

- Households from the project villages only
- Households which had suffered losses in goat rearing on account of high mortality
- Landless families and share-croppers who rear goats, and also depend on migration as a source of income.

Findings

The major findings which emerge from the case studies are:

1. Migration is a major source of sustenance for families in the project area; while the land owning families have to migrate only once in a year, landless families tend to migrate twice a year for work. Migrants expressed concerns regarding the degree of drudgery they undergo on account of migration, and the health consequences of it.
2. While a few families sell the goats in a planned manner to realize good income, most others sell goats only in an emergency, or to meet sudden, unforeseen expenses, such as those involved in meeting social obligations such as a marriage, festivals or medical treatment.
3. Not much emphasis is laid on, or known about, the management practices in goat rearing; there is also a complete lack of awareness among goat rearers on the health care issues regarding goat rearing. For example, most rearers did not have separate goat sheds, nor did they undertake preventive veterinary care by way of deworming and vaccination of their herds.

¹ The report on the baseline survey is available at <http://saplpp.org/goodpractices/smallruminants/baseline-assessment-study-goat-rearing-jhirniya-block-district-khargone-madhya-pradesh>

² Abhapuri, Bagdari, Bhadlen, Gaybeda, Kalikundi, Muramiya, Ted, Palda, Piperkhed (Chhoti) and Saka.

³ Nankodi and Tigriya

4. Not many families are in a position to afford supplementary feeding for the animals they own. Only a few land-owning families were found to be feeding their goats with grain supplements. The landless goat rearers, who need to purchase cereals even for self-consumption, restricted supplementary feeding only to the pregnant and lactating does. Based on a daily requirement of 250 gm per goat, the monthly cost of supplementary feeding is estimated at Rs 300-360 for a herd of four goats.
5. Except for a few households in Piperkhed village, who have access to a small patch of forest land, all the goat rearers complained of shrinking grazing lands, and decreasing availability of grass and tree-fodder. The goats are, therefore, either grazed on fallow agricultural fields, on farm-bunds, or on vegetation growing around ditches and other small water bodies in the area.
6. Mortality in goats was found to be the highest during the winter months. Most of the goat rearing households mentioned that bloated stomach was a common ailment in goats, especially during the months of October and November.
7. Goat rearers are keen to avail health care services for their livestock on cost basis.
8. Among the cases included in the study, income generation from goat rearing ranged from nil, in cases of households who lost all their animals to high mortality, to Rs 15,000-18,000, in case of households that sold as many as 7-8 goats in one instance to cater to medical expenses or for a marriage in the family.
9. Most of the households admitted spending Rs 200-600 annually for treatment of goats, depending upon the herd size. All the households, however, also resorted to ethno-veterinary practices to treat common diseases in goats such as cold, cough, bloated stomach, etc. The efficacy of the treatments varied with the disease and the treatment followed.

Conclusion

Goat rearing has never been envisaged as an alternative to income earning through migration because of the high mortality rates and consequent losses in goat rearing on account of disease. Lack of information and awareness regarding good management practices are a further impediment to strengthening goat-based livelihoods. A well-trained cadre of local animal health care workers and para-vets, who can provide preventive and curative health care services to the livestock, in addition to raising awareness among goat rearers, can add significant value to goat-rearing as a profitable occupation. Research, verification and/or validation of the efficacy of ethno-veterinary practices followed by the livestock rearers could also be taken up; proven practices could then be documented and disseminated for wider use and replication, and ineffective practices discontinued.

Case Studies

Nanak Ram: “While Migration is our main source of livelihood, goat rearing is an investment”



Nanak Ram and his wife Rukmini Bai standing outside their home in Saka village

200perday. “My elder son and his wife will return by the end of March, as there will be enough work then, with wheat harvesting, in and around our village”, says Nanak Ram. His son and daughter-in-law migrate for 3-4 months every year, and manage to save and bring back Rs 10,000-15,000 which lasts them for another 3-4 months.

Nanak Ram owns 2 acres of land, which was mortgaged 5 years ago for a loan of Rs 16,000 to reconstruct their house. Since repayment of part of the loan is still pending, his land remains inaccessible for use to him. He rears 2 bullocks, 1 cow and a calf in addition to 2 does (goats), 1 buck and 2 goat kids. When the cow is not in milch, the family uses goat milk for making tea. The family lost 10 poultry birds to diarrhoea and illness in December 2013. “One of the poultry birds had laid 12 eggs and was brooding, when all the birds suddenly contracted diarrhoea, and died within a span of 2-3 days, wiping out our entire flock”, shared Nanak Ram.

Nanak Ram’s family has been rearing goats for more than 25 years. The goats are taken out for grazing twice daily on agriculture fallows, or along the field bunds. On his way back with the goats, Nanak Ram also collects loppings of some of the locally grown trees, known as *Kahu* (*Boswellia serrata*), *Mahu* (*Mahua* or *Madhuca longifolia*) and *Dhawda* (axlewood or *Anogeissus latifolia*), for use as fodder. “Just after the harvest season, when there is sufficient agriculture residue available, I also take goats from other households for grazing. For this, I receive Rs 50 per month for each goat grazed”, he added.

Goats are not fed any additional grain supplements as there is only enough available for the family’s consumption. In the previous year, Nanak Ram sold 5 goats for Rs 10,000 at the time of the marriage of his youngest son. He mentioned that they did not vaccinate their goats until December 2013, when they were paid a visit by a *Gopal* from Shivna village. He charged Rs 5 for vaccinating each goat against Enterotoxemia (ET). As one of the goats was pregnant at the time, she was not vaccinated. The same goat, as well as her kid, had contracted diarrhoea recently, and Nanak Ram had to purchase medicines from a chemist store in Shivna, at a cost of Rs 400 for their treatment.

One of the more common ailments found in goats was skin abrasions, believed to be caused by high levels of humidity during the monsoon season. Remedial measures involve a thorough cleaning of the affected area using a solution of potassium permanganate.

Predation is rampant in the area and one of the causes of losses incurred by goat rearers. As most households do not have separate goat sheds, the goats are housed inside at night and tethered just outside the house during daytime.

“Because of the limited sources of feed and fodder for the goats, we do not want to increase the herd size. Further, we see goats as an investment and the unpredictable nature of diseases contracted by them can make us suffer huge losses”, explained Nanak Ram. He also shared that goats are sold only when there is an urgent requirement of money. “In the last three to four years, I sold only 5 goats, to meet the expenses on my younger son’s marriage”, said Nanak Ram.

Gyan Singh aspires to have a stable livelihood through agriculture and goat rearing

Rekha Bai and her husband Gyan Singh are residents of Piperkhed village in Jhirniya Block of Khargone district in Madhya Pradesh. They live in a *kutchha* (thatched roof) house along with their 5 children, between 4 and 15 years of age, none of whom attends regular school. The family owns two bullocks, one buffalo, one goat and a hen. The hen lays 10-12 eggs per clutch 3-4 times a year. While the eggs laid during the summer season are all used for domestic consumption, the winter clutch is generally allowed to hatch.

They do not own any land but have access to 3-4 acres of cultivable land near the village forest area. Recently they harvested their first crop of soya bean; 8 quintals was sold at Rs 2,800 per quintal (total Rs 22,400). A second crop, comprising wheat and black gram, was sown using water for irrigation from a nearby pond through use of a pump.

Their alternative source of livelihood comprises collection and sale of *mahua* flowers, a non-timber forest produce, found in the periphery of their cultivated patch. The family collects and sells an average of 2-3 quintals of these flowers every year, at a price of Rs 1,200 per quintal. The family, including the youngest four of the five children, migrates to neighbouring villages to work as agricultural labour for about 3-4 months every year during the harvest season. Men are usually paid Rs 100 per day and women earn Rs 50-70 per day. The elder son, aged 15, is left behind in the village to take care of the livestock.



Rekha Bai feeding her goat on leaves of the *sadhar* tree.

They have been rearing goats for the past 2-3 years and had 8 goats in December 2013, when seven of them died of diarrhoea within a short span of 10-15 days. The closest veterinary dispensary is located in Shivna village, which is 5 km away. The last time when the family had availed veterinary services for their ailing bullock, they had to pay Rs 400 as fees. As morbidity in goats is higher, and the perceived asset value not very significant, treatment of goats is believed to be uneconomical.

The single goat owned by the family is taken out for grazing to the nearby forest by Gyan Singh's teenaged son, twice every day; on his way back, he collects loppings of various trees such as Rahetli or Baheda (*Terminalia bellerica*), Sadhar or Saaj (*Terminalia tomentosa* or *Terminalia elliptica*), Hekkar, Dhawda (axlewood or *Anogeissus latifolia*) and Kahu (*Boswellia serrata*), for use as fodder. When pregnant or lactating, the goat is fed a handful of grain (wheat or maize), once or twice daily, for about 3-4 months.



The goat shed, which adjoins their house, consists merely of a roof made from bamboo sticks, and covered with jute sacks and empty fertilizer and cement bags made of High Density Poly Ethylene (HDPE) material. The goat is always housed inside at night owing to the risk of theft and predation.

“We are aware that goat rearing can be profitable and, therefore, we wish to purchase more goats, after we return to the village in 3-4 months' time”, shared Gyan Singh, who would be migrating soon for work

on the agriculture farms in other villages. He was not aware of the scope or benefits of vaccination and de-worming in goats, and said that if it were known to them earlier, the family could perhaps have saved its goats from dying. The family has not been able to make any earnings from the sale of goats during the past one year (November 2012- December 2013). “Both agriculture and goat rearing will help us to earn a stable livelihood in the village without having to migrate to other villages for months together”, said Gyan Singh. He also mentioned that they have been unable to continue with their children’s education because of the lack of funds.

High morbidity and mortality in goats discourages livestock rearers from increasing their herd size

Kari and her husband Vair Singh belong to the Barela tribe⁴ and are residents of Muramiya village of Jhirniya block in Khargone district of Madhya Pradesh.



Kari and her husband, Vair Singh, outside their goat shed

The couple has two sons and two daughters, three of whom are married and stay separately. The youngest child, a twenty year old son, has migrated to a nearby village in search of employment.

The family does not own any farmland. However, they cultivate a 2 acre plot on a share-cropping (*sanjha*) basis; under this arrangement, all the input costs are borne by them, and the output is divided equally between them and the owner. Other sources of family income include agriculture labour in the village and outside (mainly in nearby village Saraswat), which yields Rs 100-150 per day, depending on the season, or Rs 300 per day including for the use of their bullock; Kari earns Rs 1,000 per month in return for her

services at the village school under the mid-day-meal scheme.

Among livestock assets, the family owns 2 bullocks, 8 goats (5 does, 2 bucks and one kid), and 3-4 hens; two of the birds had recently produced a clutch of eggs. The family has been rearing goats for the past 3 years, after they were able to lease the land for agriculture on sharecropping arrangement and did not need to migrate for work. This year their share of harvest comprised 5 quintals of soya bean and 15-20 kg of maize. They had also sown *jowar* (sorghum) on the periphery of the fields. In October 2013, around Diwali festival, they sold one buck for Rs 5,000. Soon after, in December 2013, three of their goats died because of diarrhoea.

The goat with the kid yields 250 ml of milk per day, which is used for making tea. “We bought more goats so there is more milk available for consumption”, said Vair Singh. The eggs from poultry are consumed only during peak summer months. “The eggs laid during the other seasons are kept for hatching”, he said. Goats are taken out for grazing twice daily to the nearby forest and around the fields and bunds. They are also fed at home on wheat and maize supplements. *Jowar* and maize are fed to the poultry.

Two goat sheds have been constructed by Vair Singh using locally available material. Quite innovatively, he has divided one of these sheds into 2 parts, mainly to avoid over-crowding. During the day, the goats are kept outside in a shaded spot around the house. “We would like to raise more goats for milk, but dread that an outbreak of a disease could wipe out the entire herd. Hence, we sell the goats at an early age, between five and eight months, to minimize losses from morbidity and mortality”, said Kari.



Goat shed constructed by Vair Singh, using locally available material, has been divided into 2 parts to avoid over-crowding.

⁴ One of the notified Scheduled Tribes of Madhya Pradesh

“We spend Rs 400-500 on medication of our goats every year and the medicines are purchased from the chemist shop in Shivna village. The closest veterinary dispensary is located in Shivna village which is about 7-8 km away and if a veterinary doctor is called for treatment, he charges a minimum of Rs 250 towards his petrol expenses. For treatment of bullocks, the costs incurred are upward of Rs 400 per visit”,



Kari in her goat shed, showing eggs laid in the hen coop

explained Vair Singh. “We, therefore, try to cure diseases in goats using home remedies first”, added Kari. Further, she shared that in order to treat diarrhoea, both the hind legs of the animal are tied together, just above the knees, using a piece of cloth. This practice is repeated continued for 8-10 days and in most cases is very effective in controlling diarrhoea, in her opinion. Vair Singh added that ectoparasite infestation is also very common in goats for which he sponges his goats with Butox, an ectoparasiticide⁵ diluted in water. Vair Singh showed the bottle of Butox on which the maximum retail price was mentioned as Rs 28. This bottle, however, was sold to Vair Singh for Rs 30.

On being asked whether they would be interested in availing health care services for goats for a nominal fee, Vair Singh expressed his willingness, and shared that it would be a win-win situation for them, especially as they were spending significant amounts for treatment, based only on the description provided by them to the chemist. “We shall be very happy to pay for and avail the services of someone visiting us for providing veterinary health care services at our doorstep”, he said.

Goat rearing has been the only steady source of livelihood for a landless family in Gaibeda village

Baskar Bai and her husband Ramesh are residents of Gaibeda village in Jhirniya Block of district Khargone in Madhya Pradesh. They have four children in the age group of 7 to 15 years. The eldest girl dropped out of school at the age of 13, whereas the younger siblings continue.

The family does not own any land, and wage labour is the other source of livelihood in addition to livestock rearing. They rear 8-10 goats and have a flock of *desi* (non-descript) poultry, comprising 4 hens, 2 roosters and 12 chicks. One of the hens had laid 15 eggs, of which 12 had hatched the night before the visit in February 2014. Baskar Bai shared that the eggs produced during the winter season are allowed to hatch, whereas the summer eggs are consumed by the family.



Baskar Bai lifting the bamboo basket to show her hen and day old chicks, which had hatched the previous night

During the year 2013, between October and December, the family lost 3 goats to Enterotoxemia (ET). Subsequently, in January 2014, they sold 5 goats for Rs 20,000 to meet the expenses on Ramesh’s medical treatment, who was also advised by the doctor to include eggs in his diet; therefore, two hens were bought from the money earned through sale of an infertile goat.

“It started with having painful joints followed by sudden weight loss and has disabled me from taking up labour intensive jobs”, said Ramesh, who used to migrate to neighbouring villages for work earlier. He has been unwell for the last one year and, therefore, the responsibility of earning for the family has fallen on Baskar Bai, who earns Rs 50-70 per day working as an agriculture labour. “It is extremely difficult to sustain on a meagre earning of Rs 50/70 per day for a six-member family, and to be able to undergo any treatment is beyond imagination” said Ramesh. He emphasized that it was only because of the goats that he was in a position to purchase his medicines and afford the doctor’s fees.

⁵ An anti-parasitic drug used in the treatment of ectoparasitic infestations. These drugs are used to kill parasites that live on the body surface (such as ticks and lice).

Baskar Bai had a temporary goat shed built adjacent to her house, which blew away in a storm about a year and a half ago. Since then, they have not had the resources to rebuild the shed. Both the goats as well as the poultry are housed inside their one room *kutch*a house where the family stays. The birds are confined under a bamboo basket at night. The goats derive their nutrition from grazing twice a day, without provision of any additional supplements.

The family has been practicing goat-rearing for several years now, and if they can set aside sufficient savings, then they plan to purchase a couple of goats after the festival of Holi (in the month of April, 2014). The family had no knowledge of deworming or vaccination of goats. Baskar Bai shared that for any ailment in goats they resort to ethno-veterinary practices or home remedies which seem to work well, unless the goats are severely affected. She also said that for treating diarrhoea in goats, they are fed the juice of sesame leaves or the sap of seeds from a fruit known locally as *makty* or *kutre* (Devil's claw or *Martynia annua*). “I rub warm ash around the neck region of goats to relieve them from cold, in addition to administering common cough and cold medicines used by humans”, mentioned Baskar Bai.



Seeds of a locally available herb called *makty* or *kutre*, sap of which is fed to the goats to control diarrhoea

Baskar Bai has been a member of the Annapurna Self Help Group for the last three years and saves Rs 50 every month. “There is no alternate source of livelihood, and I will not even find any work in the agriculture fields after the harvest of chilli is over. I cannot migrate to another village for work, leaving my ailing husband and young children behind”, said a distressed Baskar Bai. In her opinion, livestock (goat) rearing has been the only steady source of income for the family after her husband fell ill.

Baseline listing of livestock assets and income levels of each household interviewed during the field visit to Jhirmiya Cluster in District Khargone in Madhya Pradesh

Piperkhed Village		
Particulars	Caselet 1	Caselet 2
Name of the Beneficiary	Rekha Bai and Gyan Singh (5 children)	Vasanta Bai and Sevak Ram (2 sons are married and stay separately)
Livestock assets at present	2-Bulls, 1-Buffalo, 1 doe	2 Bulls, 10-15 poultry birds, 5 does, 2 bucks and 5 kids.
Number of goats last year	8 (7 died)	17(6 died and 4 sold)
Reason for Mortality	Died in December 2013 of diarrhoea (all 7 goats died within 15 days time)	Died in December 2013 of diarrhoea
Landholding and cropping pattern	Cultivating 3-4 acres of land after clearing forest land. Harvested first <i>Kharif</i> crop of soya bean in August 2013	Own 2 acres of Well-irrigated land. <i>Kharif</i> crops of soya bean and red chillies grown in August 2013 and <i>Rabi</i> crop of wheat in March 2014.
Income from goat rearing between February 2013 and 2014 (in Rs.)	Nil	Rs. 12,000 (4 bucks sold for Rs 3,000-4,000 each)
Other sources of income	<ol style="list-style-type: none"> Sale of MFPs (<i>mahua</i> flowers) – 2-3 quintals @ Rs 1,200 per quintal. 8-10 quintal soya bean sold @ Rs 2,800 per quintal Agriculture labour and migration⁶ (husband and wife migrate with 4 children. The 15 year old son is left behind to care for the livestock) 	<ol style="list-style-type: none"> Soya bean 8-9 quintal @ Rs 3,000 per quintal and Wheat 10-15 quintals sold at Rs 1,100-1,200 per quintal Agriculture labour and migration (Vasanta Bai migrates for 10-15 days to nearby villages, during chilli harvesting season)
Management practices being followed	An open goat shed, adjacent to the house with half a wall and a roof made of Bamboo sticks. No practice of providing clean drinking water to goats. Only lactating goats are fed on wheat or maize.	A goat shed is under construction as the house renovation is under-way. Earlier the goats were simply tied outside the house. The milk/sap of a tree called <i>dahikodi</i> is fed to goats to control diarrhoea. All goats are fed on grains twice a day. Rs 200-300 is spent annually on medicines and treatment of the goats.
Gaibeda Village		
Name of the Beneficiary	Jungu Bai and Dayaram (1 son and 4 daughters, all married)	Baskar Bai and Ramesh (4 school going children)
Livestock assets at present	4 cows, 2 Bulls, 3 Does and 1 Buck	No goats currently. 14 poultry birds
Number of goats last year	7 (4 died)	10 (5 died and 5 goats were sold in January 2014 to pay for medical expenses of her husband)
Reason for Mortality	Died in July 2013 of Diarrhoea	It appears that the flock was infected by ET in December 2013 (<i>pokna</i> ⁷ were the symptoms narrated)
Landholding and cropping pattern	2.5 acres of Well-irrigated land. <i>Kharif</i> crops of soya bean grown in August 2013 and <i>Rabi</i> crop of wheat in March 2014.	Landless
Income from goat rearing between February 2013 and 2014 (in Rs.)	Nil (There was no requirement to sell any goats for money)	Rs. 15,000-20,000

⁶ The daily wage for women agricultural labourers is Rs 50-80 while for men it is Rs 100. Migration to nearby villages to work as agricultural labour also fetches the same amount. However, labour rates are higher when villagers migrate to other districts or neighbouring states to work in the construction industry. For example, men earn Rs 200 per day while women labourers receive Rs 120-150/day.

⁷Diarrhoea in local language is referred to as *pokna*.

Gaibeda Village continued...		
Particulars	Caselet 1	Caselet 2
Other sources of income	<ol style="list-style-type: none"> 16 quintals of soya bean sold @ Rs 1,500 per quintal. Only 2-4 quintals of wheat will be sold and rest will be kept for household consumption Both parents and son work as agriculture labourers. 	1. Wage labour (Due to Ramesh's ill-health, only Baskar Bai goes out to work as an agricultural labourer and earns Rs 50-70 per day)
Management practices being followed	A fistful of grain is provided only to lactating goats twice a day. This makes up for 250 gm of grain fed to each goat per day. Goats were vaccinated for ET in May 2013. They spend Rs 200-300 annually on medicines and treatment of goats. A <i>kutch</i> enclosure comprising two walls, made of bamboo and pigeon pea stalks is constructed around a shady tree, where the goats are tied in the afternoon.	Juice extracted from leaves of the sesame plant is fed to goats to cure diarrhoea in addition to the milky sap extracted from the seeds of a plant called <i>makty</i> or <i>kutre</i> (Devil's claw or <i>Martynia annua</i>). Symptoms of cold in goats were treated with the same medicine as that used for curing common cold in humans. In addition, ash is rubbed on the body above the lung-area to relieve the goats. They are desperately looking for some income generating activity. A strong storm had blown away the thatched roof of their house as well as of the goat shed, two years ago. While the roof of the house was re-constructed, there was not enough money to re-construct the goat shed.
Muramiya Village		
Name of the Beneficiary	Kari and Vair Singh	Prem Singh (lives with wife, son and daughter-in-law)
Livestock assets at present	2 bulls (used to plough other's fields), 5 Does, 2 Bucks and 1 Kid	2 bulls, 2 buffaloes, 1 calf, 4 Does, 2 Bucks and 6 Kids
Number of goats last year	12 (3 died, 1 sold)	15 (3 died)
Reason for Mortality	Diarrhoea in August 2013	Severe cold and diarrhoea in December 2013
Landholding and cropping pattern	Landless. Small patch of land taken on lease on <i>sanjha</i> basis ⁸ . Only one <i>Kharif</i> crop of soya bean grown in August 2013.	7 acres of Well-irrigated land. 2 acres under cultivation and 5 acres under <i>wadi</i> (horticulture) programme. <i>Kharif</i> crop grown in August 2013 was soya bean and <i>Rabi</i> crop in March 2014 is wheat.
Income from goat rearing between February 2013 and 2014 (in Rs.)	Rs 5,000	Rs 5,000
Other sources of income	<ol style="list-style-type: none"> 4-5 quintals soya bean sold at Rs 1,200-1,400 per quintal. Works as agricultural labour, gets paid Rs 300 per day for ploughing fields using his own bulls. Sells goat litter every year for Rs 1,500-1,600 for one trolley. Some litter is also used in his fields. 	<ol style="list-style-type: none"> 5 quintals of soya bean, 15 quintals of wheat and 4 quintals of maize Both son and daughter in law migrate for work

⁸ Under the *sanjha* system, the land is taken on lease in a way that all the cost of sowing, ploughing, irrigation, and harvesting is borne by the lessee and half of the total produce is given to the lessor (owner) as a fee to use his/her land.

Muramiya Village continued...			
Particulars	Caselet 1	Caselet 2	
Management practices being followed	As advised by a veterinary officer, goats are disinfected using a diluted butox solution. Goat sheds are divided into 2-3 separate compartments and depending upon the direction of the sun, goats are moved to shaded areas. A brooding pen was also noticed in one of these sheds for poultry birds. All the goats are fed on <i>jowar</i> and maize in addition to being taken for grazing. To control diarrhoea in goats, a small cloth piece is tied on each of the hind legs just above the knees for 8-10 days. It is known to cure diarrhoea completely. Spends Rs 400-500 annually on medicines and treatment of goats.	A goat shed made of closely-knit bamboo sticks stands adjacent to the household. Goats were observed sitting on a moist muddy floor with litter strewn all around.	
Nankodi (Control) Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Vijay Singh Sengr (stays with mother and two sisters)	Nani Bai and Jai Singh (3 sons and 2 daughters all married)	Nirma Bai and Shantilal (3 children)
Livestock assets at present	2 Does, 1 Kid, 50 poultry birds (49 birds died in the last 15 days)	2 Bulls, 1 cow, 2 Does, 3 male Kids	1 Doe, 2 Kids
Number of goats last year	11 (6 died and 3 bucks sold)	8 (6 died)	8 (5 died)
Reason for Mortality	4 goats died of diarrhoea in December 2013 while goat kids had contracted severe infestation in the anal region leading to weakness and loss of appetite.	Contracted diarrhoea during December 2013	Diarrhoea in December 2013
Landholding and cropping pattern	Landless	Two acres of Well-irrigated land. <i>Kharif</i> crops of cotton and soya bean failed in August 2013, <i>Rabi</i> crop of wheat in March 2014.	7 acres of Well-irrigated land. <i>Kharif</i> crops of soya bean and corn in August 2013 and <i>Rabi</i> crops of <i>jowar</i> and, wheat in March 2014.
Income from goat rearing between February 2013 and 2014 (in Rs.)	Rs 12,000 (3 bucks sold for Rs 4,000 each)	Nil	Nil
Other sources of income	1. Mother is an <i>Anganwadi</i> worker earns Rs 2,000 per month. 2. Vijay is a tailor and earns Rs. 100-150 per day	Both cotton and soya bean crops failed. Wheat will be used only for household consumption	Both husband and wife work as agricultural labourers (children are dropped to the <i>Anganwadi</i>)
Management practices being followed	Goats are tied in the shade adjacent to the house under a bamboo thatch roof covered with a torn cotton mat. This area is cleaned twice a day. Liming of shed is not practiced. Not aware of de-worming of goats. <i>Go-sevaks</i> visit once before the monsoon season and vaccinate goats at a charge of Rs 5 per goat. Not aware of what vaccination is carried out.	A separate shed is constructed to house bulls, cow and goats together. They were visited by the veterinary officer for the first time in December 2013, who also vaccinated their goats (Rearers are unaware of what their goats were vaccinated for). <i>Go-sevaks</i> visit once before the monsoon season and vaccinate goats at a charge of Rs 5 per goat.	<i>Go-sevaks</i> visit once before the monsoon season and vaccinate goats at a charge of Rs 5 per goat. Not aware of what vaccination is undertaken. The two kids and the Doe also had a diseased look. They were tied in the open area, just in front of the house with a jute sheet hanging from the roof to create some shaded space.

Saka Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Nanak Ram and Rukmini Bai	Nima Ben and Roop Singh (3 school going children)	Anita Bai and Chandu (5 school going children)
Livestock assets at present	2 bulls, 1 cow, 1 calf, 2 Does, 1 Buck and 1 Kid	2 Does, 1 Buck and 1 Kid	2 Bulls, 1 cow, 3 Does, 2 male Kids
Number of goats last year	8 (5 sold)	-	5 (2 bucks sold)
Reason for Mortality	Diarrhoea in August 2013	-	3 goats died of PPR (Boriya and severely blistered mouth were the symptoms mentioned)
Landholding and cropping pattern	Landless (Had 2 acres of land, which had been mortgaged for taking a loan which they could not repay)	Four and a half acres of land in father's name to be divided among 5 brothers.	4 acres land among 8 brothers (only half of the land is irrigated)
Income from goat rearing between February 2013 and 2014 (in Rs.)	Rs 10,000 (5 goats were sold to meet the expenses of their son's marriage)	There was no need felt to sell goats	Rs. 10,000 (each buck was sold for Rs. 5,000 each)
Other sources of income	Migration and wage labour (Both sons and elder daughter in law have migrated to work in a cotton mill in Khandwa. Sons are paid Rs 150 a day while his wife earns Rs 100 per day). Together they bring back Rs 15,000-16,000 after 3-4 months of migration.	<ol style="list-style-type: none"> 1. Produce from fields is distributed among all the brothers. 2. Roop Singh is also secretary of the village development committee formed by AKRSP(I) 	<ol style="list-style-type: none"> 1. Both husband and wife work as wage labourers and each earn Rs 70-100 per day 2. Very rarely are they employed under NREGA, where they earn Rs 146 per day
Management practices being followed	Goats are taken out for grazing and no supplementary feed is provided at home. Nanak Ram finds it very difficult to rear goats since there is hardly any green cover left in the surrounding areas and he has to travel a long distance to graze the goats.	A separate goat shed is in place where goats of Roop Singh's father also are housed. Nima Ben attended the training programme organized by AKRSP(I) in collaboration with the Goat Trust. 5 women from Jhirniya cluster had joined and were trained on basic vaccination for goats.	Goats are sponged with a solution of tobacco boiled in water to treat tick and lice infestation. Neem leaves are ground and fed to cure diarrhoea. Kerosene oil mixed with balm (ointment used for headaches) is applied to the forehead, chest and neck region of goats to cure them of a common cold. To cure a bloated stomach, goats are fed on <i>sev</i> or sweet oil. A separate goat shed is constructed adjacent to the house. And its tarpaulin covering needs to be replaced every year before the monsoons and it costs Anita Bai Rs 250 every year. They spend Rs 200-300 on medication of their goats.

Tigriya (Control)Village		
Particulars	Caselet 1	Caselet 2
Name of the Beneficiary	Ranti Bai and Bian (5 children and old parents)	Baati and Bhaya (3 children, mother and sister)
Livestock assets at present	1 Buffalo, 2 bulls, 1 cow, 1 Doe, 2 Kids and 10-12 poultry birds	2 Bulls, 4 cows, 5 poultry bids, 3 Does and 1 male Kid
Number of goats last year	7 (2 died and 4 sold)	3 (2 goat kids were aborted last year)
Reason for Mortality	Diarrhoea	Diarrhoea
Landholding and cropping pattern	Landless	2 acres of land taken on lease of Rs 40,000 per year (10 quintals of soya bean @ Rs 1,200-1,400 per quintal in August 2013)
Income from goat rearing between February 2013 and 2014 (in Rs.)	Rs 10,000-12,000	Nil (There was no need to sell goats)
Other sources of income	Both husband and wife work as daily wage labourers.	All family members work as daily wage labourers.
Management practices being followed	The goat shed is made of bamboo sticks and is also used for personal inhabitation.	A separate and spacious goat shed is constructed in front of the house. Made of bamboo thatch, the entire shed is plastered with mud and cow dung mixture. The cow dung plaster is applied on a weekly basis and the shed is cleaned twice a day. All goats are fed on grains such as wheat and maize at home.
Abhapuri Village		
Name of the Beneficiary	Rajesh, Son of Hari and Gaiand Bai (lives with wife, parents and younger brother)	Naini Bai lives with her 2 sons
Livestock assets at present	4 Does and 2 Bucks	5 Does, 1 Buck and 2 Kids
Number of goats last year	11 (3 died and 2 bucks sold)	11(4 died and 1 sold)
Reason for Mortality	Diarrhoea in December 2013	Diarrhoea in December 2013
Landholding and cropping pattern	Landless (Earlier land was taken on lease for farming but owing to crop failure, a lot of loss was incurred)	Landless
Income from goat rearing between February 2013 and 2014 (in Rs.)	Rs 9,000	Rs 4,000
Other sources of income	Wage labour (Rajesh and his parents migrate to nearby villages for 2-3 months and usually bring back Rs 7,000-8,000, which is enough to run the house for next two months)	Wage labour (Elder son migrates to various villages to work as a daily wage labourer while the younger son stays in the village to care for goats)
Management practices being followed	They have turned their own <i>kutch</i> house into a goat shed and are staying in Rajesh's paternal uncle's <i>pucca</i> house. The uncle had migrated to Indore with his family. They spend Rs 600-700 on medication of the entire goat flock annually. Only lactating Does are fed on grains at home.	Only lactating does are fed on supplementary feed at home. Rs 500-600 is spent annually on treatment/medication of all goats. The goat shed is swept twice a day.

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SOUTH ASIA Pro Poor Livestock Policy Programme

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