

Backyard Poultry Rearing - A Compilation of Case Studies from Jhabua, Madhya Pradesh



August 2014

SOUTH ASIA
Pro Poor Livestock Policy Programme

A joint initiative of NDDB and FAO



This document is the result of field visits undertaken by Ms Ruchita Khurana, SA PPLPP, in District Jhabua, Madhya Pradesh, where SA PPLPP is supporting a pilot project, being implemented by Sampark Samaj Sevi Sansthan, with the objective of demonstrating an integrated approach to strengthen backyard poultry rearing based livelihoods in a selected cluster of 10 villages in the Rama Block.

SA PPLPP gratefully acknowledges the inputs provided by Mr Rajaram Patidar, Project Coordinator, Sampark. We would also like to thank Mr Nilesh Desai, Director, and members of Sampark's Team for the support provided in organizing field visits and facilitating community interactions.

Introduction

Based on the findings of a baseline assessment survey¹ (completed in October 2013), and a project proposal from the Sampark Samaj Sevi Sansthan, the South Asia Pro Poor Livestock Policy Programme (SA PPLPP) commenced support to a pilot initiative for improving family poultry-based livelihoods in March 2014; the objective is to demonstrate an integrated approach to strengthen backyard poultry based livelihoods in a selected cluster of 10 villages² in the Rama Block of District Jhabua in Madhya Pradesh. For the baseline, three 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 poultry rearing; (ii) convergence with ongoing government programmes; support for improved housing and availing advice, information, technical and capacity building inputs; (iii) capacity building of, and ongoing support to community-based poultry health workers (*Murgi Sakhis*); and (iv) reducing mortality rates among household poultry flocks through the establishment of a community-led and managed system of preventive vaccination and health care, and, thereby, enabling poultry 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 poultry-rearing households from both project and non-project villages. The findings and conclusions from the case studies are outlined in this report.

Methodology

From the 10 villages in the project cluster, 6 villages (Nawapada, Bhaisa Karai, Sad, Keljhar, Chhapri, Hatyadeli) were selected initially for listing of cases. Two non-project villages (Dungrapani and Ruparel), which were also part of the baseline household survey were also included. In each of these villages, information was collected from 2-3 households through personal interviews, participant observation and focussed group discussions; based on this listing, a total of 20 households were visited for preliminary discussions and short-listing of cases for detailed study. A list of all these households, providing details of their livestock assets, sources of livelihood, income, and so forth is placed at Annexure 1. Detailed case studies were undertaken in five households based on the following selection criteria:

- Households with 4-5 birds, who have not realized any income from poultry due to high mortality rates among chicks and pullets, caused by disease and predation
- Households with 40-50 birds, who have benefited from poultry by way of nutrition through consumption of eggs and meat, and who have also earned an income from the sale of birds
- Households where a member of the family has received training on poultry rearing and management practices
- Households which have benefitted from poultry schemes earlier, e.g., through support for construction of a separate poultry shed, but have lost the entire flock due to disease and absence of appropriate veterinary services.

¹ The report on the baseline survey is available at: <http://sapplpp.org/goodpractices/small-holder-poultry/baseline-assessment-study-backyard-poultry-rearing-rama-block-district-jhabua-madhya-pradesh>

² Bhaisa Karai, Bhanvar Pipliya, Chhapri, Hatyadeli, Keljhar, Khedli, Kokawad, Nawapada, Sad and Wagnera.

³ Dungrapani, Ruparel and Semalkheddi

Findings

The major findings which emerge from the five case studies undertaken in the project cluster are summarized below:

1. All the families visited prefer to rear local non-descript (*desi*) poultry as these fetch a good price compared to the Broilers and other varieties. A few families were also observed rearing naked-neck and Satpuda *desi* birds.
2. The income from poultry ranges from nil to between Rs 8,000 and 10,000 per annum in some households that systematically practice sale of poultry around festivals and special occasions.
3. All the households acknowledge the contribution of poultry in family nutrition. While the entire clutch of eggs produced during winter and monsoon is allowed for hatching, eggs laid during the summers are generally consumed, mostly by the children.
4. The rearers seemed totally unaware of the availability of vaccines for poultry, which could prevent both morbidity and mortality in domestic birds.
5. Most women poultry rearers depend on their husbands or men in the family to purchase medicines for ailing poultry. Therefore, at the time when the men migrate, treatment is generally not available/ cannot be provided.
6. Poultry rearers who had sought assistance for treatment from the block dispensaries were handed over sachets of potassium permanganate powder, to be administered with water, irrespective of the symptoms of disease exhibited by their poultry. Noticing no improvement after this treatment, they now prefer to consult the chemist at the local store and use medicines prescribed by him.
7. A commonly observed phenomenon is the occurrence and spread of disease after purchase of birds from the local *haat*, leading to large-scale mortalities among all poultry flocks in the village.
8. Awareness about the Kadaknath breed of poultry was generally lacking, except among households who had received the birds as part of the Madhya Pradesh Rural Livelihoods Project (MPRLP). A few households, aware of the breed and its economic benefits, were keen on establishing Kadaknath enterprises, but did not have any information about where and how to procure the birds.
9. Poultry sheds constructed earlier with support from government schemes are now being used to house goats, or for residential purposes.
10. In the absence of coops/ sheds, even young chicks (less than a week old) were found to be freely moving around, in and outside the homestead areas; mortality on account of predation was also very high among chicks.
11. The practice of disposal of dead birds was found to be unsanitary; the carcasses, including of birds dying of infection, are usually dumped with the garbage, often in close proximity of the homestead.

Conclusion

Poultry rearing is not only an alternative livelihood option, but also a good source of nutrition for the whole family, especially children. Although the high rates of morbidity and mortality often act as deterrents, most poultry rearers appeared keen on expanding their flock size. Purchase of birds from the *haat* has been identified as the main source of disease in poultry, which can be effectively contained by use of preventive vaccination and following appropriate management practices, including proper housing, regulation of temperature and exposure to light for better growth.

There is a need to raise awareness among the rearers on good management practices in poultry rearing, including feeding, housing and preventive health care. It is envisaged that the concept of *Murgi Sakhis* (trained community poultry health workers), which is proposed under the SA PPLPP-supported project, will address the observed issues to a great extent, by providing information and health care services at the doorstep of rearers.

Case Studies

Raju Bai: “Family poultry enterprise can save us from the drudgery of migrating”

Raju Bai and her husband Kalu are residents of Nawapada village in Rama block of Jhabua district in Madhya Pradesh. They have 2 sons and 2 daughters. The elder of the two sons is married, and has migrated to Gujarat along with his wife, their one-year old son, and younger sister, to work as wage labourers. The couple’s younger son and daughter are studying in a village school. Prior to the eldest son’s marriage in 2012, Raju Bai and Kalu used to migrate to Indore to work as construction workers, leaving all their children behind in the care of the grandparents. They lived in a joint family at that time. Afterwards, Raju Bai and Kalu stopped migrating, and their son started doing so, to be able to supplement the family’s income.

On separating from the extended family, the family assets were divided; Raju Bai and Kalu received 3 *bighas* (1.2 acres) of land; two bullocks; one buffalo; one heifer; seven goats comprising two does, one buck and four kids; and two poultry birds, one of which had produced 15-20 eggs 2-3 months ago. Of the 14 hatchlings born, seven were lost to predator attacks. Raju Bai shared that eggs laid during the summer season are consumed by the family, and the winter clutches are all usually left to hatch. “The eggs are kept for the children and, it is mostly during the festivals or when guests visit us that we consume chicken at home. We cannot afford to buy eggs or meat from outside”, said Raju Bai.

The family harvested the *Kharif* crop during September-October 2013, and obtained 1 quintal of soya bean, 2 quintals of cotton, 2 quintals of maize and 2 quintals of pigeon pea (*tuar*); the farm being rainfed, *Rabi* crops are not sown.



Rajubai displaying the hen coop made from a bamboo basket, hanging from the roof of her house

At the time of visiting the family, in February 2014, Kalu had left for Gujarat to deliver grain and pulses to his son and family for their consumption. Raju Bai shared that after 3-4 months of migration, their children manage to save and bring back at least Rs 25,000-30,000.

The poultry birds are allowed to free range during the day, and confined under a bamboo basket during the night. A handful of grain (maize and wheat, about 150-200 gm) is given as feed supplement daily. Eggs laid by the hen are kept in a bamboo basket hung from the roof, with grass and twigs as padding, for the birds to hatch their eggs. This also protects the eggs and brooding birds from predation.

Raju Bai is the president of Kalka *Samuh* (Self Help Group) which was formed 3 years ago. As a group member, she saves Rs 100 per month. In the year 2011, she went for an exposure trip to Tirla village in neighbouring Dhar district along with a few other SHG members, where they interacted with households rearing Satpuda *desi* poultry; the trip was organised under the Madhya Pradesh Rural Livelihoods Project (MPRLP). In the backdrop of the exposure trip, there were always discussions among members during the SHG meetings about investing in poultry rearing. However, they were apprehensive because of the high rates of morbidity and mortality in birds, and dreaded losing their investment in the poultry enterprise because of this.

“If we could earn an additional Rs 3,000 or more per month, our family would be saved from the drudgery of having to migrate to other towns and villages in search of work”, said Raju Bai. When they were part of the joint family, she added, she was not in a position to take decisions about expanding their poultry flock, and she also had to migrate frequently in search of work.

During the sowing season, in June 2013, the family took a loan from the Kalka SHG to buy seeds and other agriculture inputs; the amount was repaid to the SHG after the harvest and sale of the mature crop. She is now willing to invest in poultry, provided the disease outbreaks can be controlled. “If the women in Tirla village can benefit from poultry as an enterprise, why can’t I do the same?” she asks.

Baddi and Badar aspire to establish a backyard poultry enterprise as an additional source of income

Baddi and her husband Badar are residents of Naka hamlet in Bhaisa Karai village of Rama block in Jhabua district of Madhya Pradesh. They have two sons and seven daughters; four of the daughters and both the sons are married. Of all the children, only the youngest daughter has attended school, till class VII. The elder son has 4 daughters, and the younger one has four sons and a daughter.



Baddi, from Bhaisa Karai village, feeding her poultry birds.

The family cultivates 6 *bighas* of land, of which only 2 *bighas* (0.8 acres) is titled land. The rest is cultivation in forest area. During the *Kharif* season, the family cultivates cotton and maize, and wheat during *Rabi*. In the previous year, they harvested 2-3 quintals of cotton, which was sold at Rs 6,000 per quintal. Maize and wheat produced on the farm meet the family's requirements only for 3-4 months. They own a cow, two bullocks and 35-40 poultry (15 hens, 5 roosters and the rest are chicks/pullets), including 3 guinea fowls. The poultry birds consist of *desi* and Satpuda crosses.

During a year, the Satpuda crosses produce two clutches of 30-35 eggs each, the *desi* birds produce three clutches of 15-20 eggs each, and the guinea fowls produce a total of about 100 eggs in a year. A large number of the family's birds died during the previous monsoon (between June and July 2013); most of them developed sticky feet, a symptom of the Ranikhet disease. "We lost all the 200 chicks from the guinea fowls last year", said Baddi. In the same year, the family sold 30-40 birds, each for Rs 300-400. "We prefer selling 10-15 birds at a time, at the Rajgarh *Mandi*, as it fetches at least Rs 50-70 more per bird than when selling in the village", said Badar. For each bird sold, they are required to pay Rs 5 towards maintenance charges of the *Mandi*.



Sangeeta, Baddi's daughter, displaying eggs recently laid by their *desi* poultry bird. - To avoid predation of the 3-4 day old chicks, the mother hen's foot is tied with a string to the coop, to prevent her from going out for scavenging.

A shed constructed for housing poultry in 2009, after a poultry-training from Sampark Samaj Sevi Sanstha, is now used for personal habitation. A hen coop was found hanging from the roof of the shed, where broody hens hatch their eggs. There are separate waterers for poultry birds, which were also purchased after the training. "Until 2009 I reared only 4-5 birds, as I knew little about their upkeep and maintenance; however, after receiving training from Sampark, I bought about 50 more to add to my income through poultry rearing", said Badar. "Initially, I used to purchase supplementary feed for Rs 20-22 per kg. I had to discontinue the practice of buying feed as it was turning out to be uneconomical. The birds are allowed to scavenge all day and provided supplemental feed comprising a mix of one kg of maize and wheat, every day.



Baddi's husband Badar, displaying eggs laid by the *desi* poultry bird visible in the brooding basket in the background

"Our consumption of poultry meat has also increased. Irrespective of festival or guests, we consume it at least every two months", said Baddi. Eggs are consumed only during the summer season, and preferably fed to the children.

The annual expenses on medication and treatment of poultry range from Rs 500-600. "We try to cure illnesses using home remedies before resorting to English medicine", informed Baddi. In case of symptoms such as white stools, weakness or *unghna* (drooping head), birds are fed the juice of *tuar*



Som kadwati (Kair or ker - *Capparis deciduas*), a locally found tree. Sap from its bark is fed to poultry birds to cure diarrhoea

(pigeon pea) leaves. The sap of a locally found tree, known as *som kadwati* (Kair or ker - *Capparis decidua*), is also used as a cure for diarrhoea in poultry. For birds which appear lazy and weak, tablets of Oxytetracyclin are administered as a cure; these are purchased over the counter from drug stores in Kalidevi, against payment of Rs 10-15 per tablet.

Between September and January, the two adult sons, with their wives, migrate to Morbi district of Gujarat and work as construction labour at a canal construction site; they earn a daily wage of Rs 250 per person. This year, they had managed to return home with savings of Rs 50,000 over a span of four months. The family is trying to repay a debt of Rs 100,000, serviced at an annual interest rate of 30%, taken for meeting the marriage-related expenses of a son and a daughter in 2012. Therefore, the returning couples were planning to migrate again in March 2014, to earn more and return home by the onset of monsoon, when sowing begins.

It was learnt that rampant predation and disease outbreak were the main causes behind their inability to increase the flock size. “We are aware that we can get good returns from rearing poultry and are most willing to learn about practices we can adopt to decrease mortality in birds”, said Baddi, and Badar agreed. He was also eager to learn about the Kadaknath breed of poultry, and was keen on rearing them in order to make more profit; however, he was unaware about where these could be procured from. Income from agriculture was clearly not enough to sustain their family, and poultry was seen as an enterprise which could augment the family’s income and meet its nutritional requirements.

Dittu wishes she could protect her flock from disease and death



Dittu with her broody hen in the brooding pen

Dittu and her husband Dilip Parmar are residents of village Sad in Rama block of Jhabua district in Madhya Pradesh. They have two school going children, a daughter and a son, aged 12 and 8 respectively. Dittu received formal education up to standard XII, and Dilip is a graduate who teaches in the village school. He earns Rs 5,000 per month. Dittu is the secretary of a women’s self help group, Saraswati Sahayata Samuh, since 2008; for over a year now, the members have been saving Rs 100 every month, up from Rs 50 when they had started. They own 2 *bighas* (0.8 acres) of land, which is well-irrigated, and harvest two crops in a year. In October 2013, the family harvested 5 quintals of soya bean, 4 quintals of cotton, 80 kg of *Tuar* (pigeon pea), 50 kg of groundnut and 40 kg of black gram. They have sown a *Rabi* crop of wheat which is estimated to harvest about 10 quintals of grain.

The family stays in their own house and their livestock assets comprise two bullocks; one milch cow; seven goats including two does, one buck and four kids; and two hens, a rooster and 12 pullets. The cow yields one and a half litres of milk every day, which is consumed by the family. Eggs are both consumed and allowed to hatch, depending on the season, and chicken meat is consumed once in two months.

The family has been rearing poultry for many years. During Diwali, in November 2013, they sold 8 birds for Rs 400 each at the Kalyanpuri *Mandi*, which is 10 km away. Two birds were also sold from home at Rs 350 each. Usually, it is Dittu’s brother-in-law who goes to the market for selling their poultry. In December 2013, nearly 20 birds had died of cold and diarrhoea (bloody stools). “Upon noticing the first symptoms of diarrhoea in some birds, I started giving them juice of neem (*Azadirachta indica*) and nutmeg (*jaiphal*, *Myristica fragrans*) leaves, but it did not help; very soon, the entire flock was affected,

except for a rooster and 2 hens”, said Dittu. Many of the birds had simultaneously contracted severe cold. “The broody hen which was hatching eggs at the time was one of the two which survived. Of the 25 eggs laid by her, only 13 eggs hatched, and 12 chicks survived”. Dittu claimed that the hen produces three clutches of 20-25 eggs in a year. “While all the eggs of the summer season are consumed at home, mostly by the children, I ensure that some winter eggs are also given to them for consumption”, she added.



Dittu displaying the leaves of custard apple. The poultry birds are sponged with water boiled with these leaves to rid them of ectoparasites

Poultry birds are allowed to scavenge throughout the day, and also provided a handful of grain mixture, consisting of maize and wheat. There is no separate shed for the poultry, but they are confined under bamboo baskets at night. For the broody hens, a bamboo brooding pen is suspended from the roof. As theft of livestock, including poultry, is a common occurrence in these parts, they are unwilling to house the poultry in a separate shed outside the house. For treatment of ectoparasites, such as tick and lice, Dittu boils the leaves of the custard apple (*Annona squamosa*) tree in water and sponges the birds with it.

Dittu had been on an exposure trip and training to the Krishi Vigyan Kendra (KVK), Jhabua, along with other members of her SHG. Dittu recalled that vaccinated Kadaknath chicks (one-two weeks old) could be bought from the KVK hatchery for Rs 35 each, and a year old bird fetches Rs 550-600 at least. The second trip to the KVK was scheduled to take place in the month following the visit. It had been decided that the second training would focus on good management practices in poultry rearing.

Being an active community member and advocate of good livestock rearing practices, Dittu often visits the neighbouring households to enquire about their livestock and share her own knowledge. The neighbours also trust and consult her for information on home remedies to cure diseases in poultry and goats. “Mortality in birds due to diseases and predation is rampant in our village. I wish I had more knowledge in this regard to help myself and my neighbours”, rued Dittu, and decided to accompany the visiting team for their meetings with other households in the village.

Kamma Bai ponders whether poultry rearing can be an additional source of livelihood for their family



Kamma Bai with her poultry bird and chicks

Kamma Bai and her husband Ramesh are residents of Keljhar village in Rama block of Jhabua district in Madhya Pradesh. They have four daughters and two sons in the age group of 6 to 16 years and none of the children go to school. The family has their own house and 2 *bighas* (0.8 acres) of rainfed agriculture land. They harvested 60-70 kg of cotton in October 2013, along with 3-4 quintals of maize and 5-6 kg of black gram. They own two bullocks, 2 goats, one goat kid and three poultry birds. The three birds produced a clutch of 15-20 eggs each between November 2013 and January 2014, of which only 4 pullets and 15 chicks still survive; the rest died of predation and/or diarrhoea. “I am not even sure if

the remaining birds will survive, owing to the frequent diarrhoeal attacks which wipe out entire poultry flocks within a couple of days”, said Kamma Bai. She, therefore, feels very discouraged and hence is unwilling to expand the size of her flock.

According to Kamma Bai, the major cause of mortality in poultry is diarrhoea. “Despite this understanding, when a bird contracts diarrhoea and there are few chances of its survival, my husband still gets medicines for treatment from the chemist’s store at Kalidevi, about 8 km away. When he is travelling, I have to depend upon the neighbours”, she said.

Kamma’s husband, Ramesh, migrates to Indore thrice every year, for periods of 2-3 months each, to work as construction labour. Since the previous year, their elder daughter has also started going with her father to work as a daily wage labourer. The family took a loan of Rs 2,000 at the *Kharif* sowing season in 2013, and have yet to repay the principal.

The poultry is allowed to free scavenge and rarely provided any supplementary feed; they cannot afford to, for the family needs to buy both rice and wheat for their own consumption. At night, the birds are confined in a bamboo basket at home. For brooding birds, a bamboo basket lined with grass and twigs is suspended from the roof in an adjoining shed, raised on bamboo poles. The birds consume water from open pits and ditches around the house.



Kamma Bai standing next to the brooding pen hung in an open shed outside her house

Kamma Bai discontinued her membership with the Durga Self Help Group recently, following financial constraints and her inability to deposit the agreed amount (Rs 100) every month. “There is hardly enough money for purchase of wheat or rice for the family, so saving any is out of question”, said a distressed Kamma Bai. She further added, “Poultry rearing provides a safety net, and only in dire circumstances we resort to selling the birds. I have never thought about poultry as an additional source of livelihood for the family”.

Panglai wants to re-invest in her poultry enterprise, acknowledges one can reap benefits with minimum input costs



Panglai standing next to her *kutcha* house

Panglai Madu is a resident of Chhapri village in Rama block of Jhabua district in Madhya Pradesh. She lives in a *kutcha* house with her husband, his second wife and their five children; two daughters and three sons. Panglai does not have any child of her own. The family has 3-4 *bighas* (1.2-1.6 acres) of well-irrigated land. In the previous year, they harvested 7 quintals of soya bean and 3 quintals of maize. The cotton crop failed completely and they have sown 60 kg of wheat for the *Rabi* season, expecting a yield of at least 10 quintals of grain. She rears a bullock, a milch cow and a calf, four goats and seven goat-kids.

Panglai had 45 poultry birds, which died of diarrhoea recently (January 2014). She suspects that the infection was contracted from birds newly purchased from the market by her neighbours, who lost their flocks as well. “As soon as some birds started showing signs of diarrhoea, I started feeding them the extract of neem leaves and garlic, but that did not help. I did not know who to approach when my birds were suffering” she shared.

Wage labour is a supplementary source of income for the family. Panglai’s husband and his second wife migrate to Jamnagar, Gujarat to work as construction labour, where they are paid Rs 200 per day. They usually migrate for 1-2 months at a stretch, twice every year, along with their youngest son who is one year old. All the other siblings stay back in the village and are looked after by Panglai.

Panglai had received 30 Kadaknath birds under the Madhya Pradesh Rural Livelihoods Project (MPRLP) in 2010, which she raised along with her flock of 10-15 *desi* birds. With support from the said Project (MPRLP), she constructed a concrete shed to house the poultry. She found the shed to be very helpful in preventing theft of birds at night. The shed is now used only to pen the goats which she owns.

“In the first year, I made a lot of profit from selling the Kadaknath birds, as each bird was sold for Rs 500-600, unlike *desi* birds which fetch a maximum price of Rs 350-400 per bird. Over time, the occurrence of disease in Kadaknath birds increased, and hence their mortality”, said Panglai. On enquiring, it was found that the birds had neither been vaccinated, nor did the beneficiaries receive any follow-up support from the project officers.

Based on her experience and the profits she had earned from the Kadaknath poultry enterprise, Panglai aspires to restore her poultry unit; she would like to buy a few poultry after the festival of Holi in March 2014. As a lot of the poultry flocks had died in the recent past, she feels it is not advisable to re-introduce any new birds in the area before an interval of 2-3 months, for risk of the infection persisting in the neighbourhood, and chances of the new flock being afflicted by the disease.

Panglai used to save Rs 50 monthly as a member of a Self Help Group until one day when one of the members ran away with the group’s savings. “We lost trust in the group and are not willing to join any group now”, she informed.

Panglai shared information she had obtained recently from a village teacher, about a government scheme under which one could procure 40 poultry birds on payment of Rs 200-300; she said that she would be willing to avail of the scheme. “I wish to build a *pucca* house for my family”, said Panglai, adding further that poultry enterprise, especially if it comprised the Kadaknath breed of birds, could be an excellent opportunity to earn a good sum of money, with minimal input costs, provided the threat of disease was dealt with appropriately.

Baseline listing of livestock assets and income levels of each household interviewed during the field visit to Rama block. (Poultry rearing)

Dunrapani (Control) Village			
Particulars	Caselet 1	Caselet 2	
Name of the Beneficiary	Halku Bai and Shambhoo (live with 3 grandchildren, one son has died and the second son lives separately)	Laali Bai and Eeshwar	
Livestock assets at present	2 cows, 1 calf, 5 goats, 5 kids, 50-60 poultry birds (5 adult female and 5 male and chicks/pullets), 3 dogs and 3 cats	1 cow, 2 Bulls, 20 poultry birds (6 adult female and chicks/pullets)	
Number of Poultry birds sold/died last year	Consumed at home, 5-6 died, 4-5 sold in the Rajgarh market	Consumed at home, 2 sold and 7-8 died	
Reason for Mortality	Diarrhoea	Predation and Diarrhoea and droopy head in December 2013	
Landholding and cropping pattern	10 <i>bighas</i> (4 acres) of land. <i>Kharif</i> crops of rice and maize in August 2013 and <i>Rabi</i> crop of groundnut, and <i>Zaid</i> black gram, in March 2014. All the produce is kept for household consumption only.	5 <i>bighas</i> (2 acres) of Well-irrigated land. <i>Kharif</i> crop of soya bean in August 2013 and <i>Rabi</i> crop of <i>jowar</i> , and <i>Zaid</i> crop of black gram, are grown.	
Income from poultry rearing between February 2013 and 2014 (In Rs.)	5 birds sold in October 2013 (Diwali time) for Rs 500 each	2 male birds sold during Diwali for Rs 500 and Rs 300 respectively.	
Other sources of income	Shambhoo and his elder grandson migrate to work as wage labourers for 1-2 months in nearby villages at Rs 100 per day	1. Husband works as watchman and earns Rs 1,500 per month 2. 2 quintals of soya bean sold at Rs 1,400 per quintal	
Management practices being followed	4 kg of maize is fed daily to the poultry and goats. Adult birds are fed on maize grain while 2-3 month old chicks are fed on moistened maize flour. Dogs are reared to minimize predation of poultry birds. As the black gram crop is ready for harvesting, poultry is not led out frequently for scavenging. There is a common shed where both poultry and goats are kept at night. Medicines are rarely purchased for poultry birds.	No separate shed for the poultry birds. Broody hen is made to sit in a bamboo basket laid with hay for hatching eggs. Birds are fed on maize and wheat grains. Medicines are rarely purchased for poultry birds.	
Bhaisa Karai Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Baddi Bai and Badar (2 sons and 7 daughters - live with 2 unmarried daughters and two sons of whom one is married)	Gullar Bhai (stays with wife and 7 sons and 4 daughters)	Shanti and Somla (lives with 3 sons and 5 daughters)
Livestock assets at present	1 cow, 2 bulls, 35-40 poultry birds (15 adult female and 5 male and chicks/pullets) includes Satpuda crosses, <i>desi</i> birds and 3 guinea fowls.	2 cows, 3 buffaloes, 5 bulls, 11 goats, 40 poultry birds (10 adult female and 3 male and chicks/pullets). Also rear dogs to prevent animals from theft and predation	1 cow, 2 bulls, 20-25 poultry birds (2 adult female and chicks/pullets)
Number of Poultry birds sold/died last year	Consumed at home, 30-40 sold and 10-15 died. 50-60 week old chicks of guinea fowls also died	Consumed only at home and 10-12 died	5 sold and 5-6 died
Reason for Mortality	Predation, Ranikhet (sticky feet) in August-September 2013	Diarrhoea and predation (didn't have exact information as his wife cares for the birds. She was out to meet her parents in a nearby village)	Predation

Bhaisa Karai Village continued...			
Particulars	Caselet 1	Caselet 2	Caselet 3
Landholding and cropping pattern	6 <i>bighas</i> (2.4 acres) of Well-irrigated land. <i>Kharif</i> crops of cotton and maize in October-November 2013 and <i>Rabi</i> crop of wheat in March 2014. Has a debt of Rs 1 lakh at an annual interest rate of 15 to 20%	60 <i>bighas</i> (24 acres) of land. <i>Kharif</i> crops of cotton and soya bean in August and November 2013 respectively and <i>Rabi</i> crop of wheat. 20 <i>bigha</i> land is irrigated using a bore well	4 <i>bighas</i> (1.6 acres) of land. <i>Kharif</i> crops of cotton, maize and soya bean are grown.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Rs 12,000 (30-40 birds sold for Rs 300-400 each) in Rajgarh Market.	Consumed at home only twice a month. There was no need to sell birds.	Rs 1,500-2,000 (sold 5 poultry birds for Rs 400-500 each)
Other sources of income	<ol style="list-style-type: none"> 3 quintals cotton @ Rs 4,000 per quintal. Both sons and daughter in law migrate to Gujarat to work as construction labour in canal construction. Get paid Rs 250 per day. They migrate twice a year for 3-4 months and bring back Rs 50,000 per trip. 	<ol style="list-style-type: none"> Works as watchman in nearby forest and earns Rs 1,000 per month for 2-3 hours of work every day. 3 sons with wives have migrated to Morvi and Amreli districts in Gujarat to work as construction labourers at Rs 200-250 per day. 	<ol style="list-style-type: none"> Sale of 4-5 quintals of cotton, 3 quintals of soya bean and 4-5 quintals of corn. Elder son and daughter in law migrate to Gujarat to work in a cotton mill. Bring back Rs 12,000-15,000 after working for 4-5 months.
Management practices being followed	A separate shed was constructed in 2009, after receiving some poultry training from SAMPARK. The same shed is now also used for personal habitation. A hen coop is seen hanging from the roof of the shed, where broody hens hatch their eggs. There are separate waterers for poultry birds. They spend Rs 500-600 on treatment of their poultry birds. In case of symptoms such as white stools, weakness or <i>unghna</i> (drooping head), birds are fed on the juice of the leaves of <i>Angla thuar</i> (a cactus plant locally available). The sap of the plant known as <i>som kadwati</i> is also used to cure poultry birds. Tablets like Oxytetracyclin (Rs 10-15 per tablet) are purchased off the counter and administered to poultry birds which look lazy and weak. Birds are fed on maize and wheat grains. The livestock shed is sprayed with left over pesticides.	No separate shed for poultry birds. Theft is common and poultry is kept under a big bamboo basket at home during the night time. 2-3 hen coops made from bamboo were seen hanging from the roof of an open shed, where broody hens hatch their eggs. Birds are fed on maize and wheat grains.	Birds are fed on maize, <i>jowar</i> (sorghum), rice and wheat grains. No separate shed for poultry birds, They are housed under a bamboo basket at home at night. Rarely is medication provided to poultry birds.

Nawapada Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Gumi Bai and Amar Singh (live with a married son and daughter-in-law) (they have 3 sons and 3 daughters, all of whom are married)	Noori Bai and Mun Singh (live with 2 sons and 2 daughters) (have 3 sons and 4 daughters)	Raju Bai and Kalu (live with 2 sons 2 daughters and a daughter-in-law)
Livestock assets at present	2 cows, 2 buffaloes, 2 bulls, 30 poultry birds (6 adult female and 3 male and chicks/pullets)	2 cows, 2 bulls, 18 poultry birds (4 adult female and 1 male and chicks/pullets)	2 bulls, 2 calves one each of a cow and buffalo, 11 poultry birds (2 adult female and chicks/pullets)
Number of Poultry birds sold/died last year	9 sold and 10-15 died	Consumed only at home and 6-7 died	Consumed only at home and 7-8 died
Reason for Mortality	Diarrhoea in August – September 2013 and Predation	Predation and Diarrhoea in August 2013	Diarrhoea during August – September 2013
Landholding and cropping pattern	2 <i>bighas</i> (0.8 acre) of land. <i>Kharif</i> crops of cotton and maize are grown.	5 <i>bighas</i> (2 acres) of Well-irrigated land. <i>Kharif</i> crops of cotton, soya bean and maize and <i>Rabi</i> crops of wheat and pigeon pea (<i>tuar</i>), and <i>Zaid</i> crop of black gram, are grown.	3 <i>bighas</i> (1.2 acres) of land <i>Kharif</i> crops of soya bean and cotton and <i>Rabi</i> crops of pigeon pea and maize are grown.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Rs 1,800-2,000 (sold 9 birds for Rs 200-250 each)	Nil (there was no need to sell birds)	Nil (there was no need to sell birds)
Other sources of income	<ol style="list-style-type: none"> 1. Sale of ½ quintal of cotton and 2-3 quintals of maize. 2. 2 sons and daughter-in-law migrate to Gujarat to work as construction labourers. 	<ol style="list-style-type: none"> 1. Husband owns a grocery shop. 2. Sale of 10 quintals of cotton, 6 quintals of soya bean, 7 quintals of maize, 15-20 quintals of wheat, 1 quintal of <i>tuar</i> and 20 kgs of black gram. 3. Elder son and daughter-in-law have migrated to Gujarat to work as wage labourers. 4. Lend money on interest. 	<ol style="list-style-type: none"> 1. Sale of 2 quintals of cotton, 1 quintal of soya bean, 2 quintals of maize and 2 quintals of Pigeon pea. 2. Son and daughter in law migrate to Gujarat to work as construction labourers. Bring back Rs 30,000 after 4-5 months of migration.
Management practices being followed	Feed poultry birds on wheat and maize flour. No shed for poultry birds. Even 3-4 day old chicks were seen roaming around the road-side. Veterinary dispensary or hospital is not visited for any poultry ailment. Medicines are bought from the chemist shop and administered to the birds.	No waterer for poultry birds, a small ditch outside the house, is generally filled with water and poultry birds drink from the same place. Birds are fed on maize grains twice a day. No separate shed for poultry birds. They are housed under a bamboo basket inside the home at night.	No separate shed for poultry birds. Hen coops made from bamboo baskets hang from the roof of the house, where poultry birds hatch their eggs. Water is kept in a separate vessel for birds to drink. Medicines are purchased from the chemist shop after consultation with the chemist. Birds are also fed on maize and wheat grains.

Sad Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Surti Bai Parmar and Puniya Parmar (2 sons and 1 daughter)	Dittu Bai Parmar and Dilip Parmar (a son and a daughter)	Prem and Ramu (live with 4 children and Ramu's parents)
Livestock assets at present	2 bulls, 3 buffaloes, 3 goats, 20 poultry birds (4 adult female and 2 male and chicks/pullets)	1 cow, 1 bull, 7 goats, 15 poultry birds (2 adult female and 1 male and chicks/pullets)	2 bulls, 3 cows, 1 buffalo, 9 goats, 50 poultry birds (20 adult female and 10 male and chicks/pullets)
Number of Poultry birds sold/died last year	20 sold and 5 died last year	10 sold and 15-20 died last year	12 sold and 7-8 died last year
Reason for Mortality	White diarrhoea during March – April 2013 and severe cold during August – September 2013	Bloody stools and severe cold during August – September 2013	Diarrhoea in April 2013
Landholding and cropping pattern	5 <i>bighas</i> (2 acres) of land irrigated by a shared bore well. <i>Kharif</i> crops of cotton, soya bean and maize and <i>Rabi</i> crops of wheat and pigeon pea, and, later in the year black gram, are grown.	2 <i>bighas</i> (0.8 acres) of land. <i>Kharif</i> crops of soya bean, cotton and maize and <i>Rabi</i> crops of wheat, pigeon pea and groundnut, and <i>Zaid</i> crop of black gram, are grown.	7 <i>bighas</i> (2.8 acres) of land, irrigated by a bore well, to be distributed among 3 brothers. <i>Kharif</i> crops of soya bean and cotton and <i>Rabi</i> crops of wheat, <i>urad</i> and Pigeon pea, and <i>Zaid</i> crop of black gram, are grown.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Rs 6,000 (20 birds sold for Rs 300 each)	Rs 4,000 (10 sold for Rs 400 each during the Diwali festival at Kalyanpura market.	Rs 3,500-3,600 (12 birds sold at Rs 250-300 during the Diwali festival at the Kalyanpura market)
Other sources of income	<ol style="list-style-type: none"> 1. Sale of 20 quintals of soya bean, 2-3 quintals of cotton, 10 quintals of wheat, 10 quintals of maize and 20 kg of black gram. 2. Husband migrates for 2-3 months to Gujarat to work as a wage labourer 	<ol style="list-style-type: none"> 1. Husband is a teacher in the government school and earns Rs 5,000 per month 	<ol style="list-style-type: none"> 1. Sale of 10-12 quintals of soya bean, 5-6 quintals of cotton, 1 quintal of wheat, 2 quintals of pigeon pea, 50 kg of black gram and 40 kg of <i>urad</i>. 2. Husband migrates to neighbouring villages to work as an agricultural labourer.
Management practices being followed	Birds are fed on maize and wheat grains at home. For diarrhoea poultry birds are fed on sap of tender papaya fruit and on the juice of <i>neem</i> leaves. No separate shed for poultry birds. A hen coop made from bamboo hangs from the roof of the house where hay is stored. They are willing to construct a separate shed for poultry birds. Under KVK extension programme, Surti Bai visited the Jhabua Kadaknath hatchery where they were provided a day's training on managing Kadaknath poultry birds. They collect medicine (mostly potassium permanganate powder) for poultry from the dispensary. Birds also fed on maize and wheat grain twice a day.	For diarrhoea poultry birds are fed on sap of tender papaya fruit and on the juice of <i>neem</i> leaves. Poultry birds are sponged with water boiled with leaves of custard apple to cure tick and lice infestation in birds. No separate shed for poultry birds due to rampant theft. They are housed under a bamboo basket at home at night. Under the KVK extension programme, Dittu Bai visited the Jhabua Kadaknath hatchery where they were provided a day's training on managing Kadaknath poultry birds. They collect medicine (mostly potassium permanganate powder) for poultry from the dispensary. Birds also fed on maize and wheat grain twice a day.	A common shed that houses cows, goats and poultry. They spend Rs 20-40 every alternate month to buy medicines for poultry birds. The nearby dispensary only provides powdered potassium permanganate which is not effective to control various diseases in poultry. Poultry birds are also fed on some maize or wheat grain.

Keljhar Village			
Particulars	Caselet 1	Caselet 2	Caselet 3
Name of the Beneficiary	Ratni Bai and Teja (one daughter and 3 sons)	Kammabai and Ramesh (4 daughters and 2 sons)	Shyama and Lalu (2 sons and 4 daughters)
Livestock assets at present	2 cows, 2 bulls, 12 goats, 2 adult female poultry birds	2 bulls, 2 goats, 3 adult female poultry birds	1 cow, 2 calves, 2 bulls, 6 poultry birds (1 adult female and 5 pullets)
Number of Poultry birds sold/died last year	Consumed only at home and 20-30 birds died last year	Consumed only at home and 10-15 birds died last year	Consumed only at home. 6-7 birds died last year and 2 sold
Reason for Mortality	Diarrhoea in May 2013	Predation and Diarrhoea	Predation and Diarrhoea
Landholding and cropping pattern	3 <i>bighas</i> (1.2 acres) of land. Only <i>Kharif</i> crops of soya bean, cotton and maize are grown.	2 <i>bighas</i> of land. Only <i>Kharif</i> crops of cotton and maize, and <i>Zaid</i> crop of black gram, are grown.	3 <i>bighas</i> (1.2 acres) of land. Only <i>Kharif</i> crops of cotton and maize, and <i>Zaid</i> crop of black gram, are grown.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Nil	Nil	Rs 300 (Two birds sold for Rs 150 each)
Other sources of income	<ol style="list-style-type: none"> 1. Elder son and daughter-in-law migrated to Indore to work as construction labourers. 2. Sale of 1 quintal soya bean and 1 quintal of maize. (Cotton crop failed) 	<ol style="list-style-type: none"> 1. Sale of 60-70 kg of cotton, 3-4 quintals of maize and 5-6 kgs of black gram. 2. Husband migrates to Indore to work as a construction labourer 	<ol style="list-style-type: none"> 1. Husband along with two daughters aged 16-18 years have migrated to Indore to work as construction labourers. Will bring back Rs 20,000. Later shall migrate to Dhar for 1-2 months during the wheat harvesting season. Sale of 50-60 kg of cotton, 1 quintal of maize and 10 kg of black gram. 2. Children go to the nearby forest to collect minor forest produce <i>behda</i> which is sold for Rs 500 per quintal.
Management practices being followed	Poultry is kept in the same shed as the goats and the cow. A hen coop made of bamboo hangs from the roof of the house, where the hen hatches her eggs. They do not provide separate water for birds. Not aware of any medication either	Birds are very rarely fed on grains at home. Depends upon her husband to buy medicines for livestock as the medicine shop is 10 km away.	No separate shed for poultry birds. A hen coop made of bamboo hangs from the roof of the house, where the hen hatches her eggs. Poultry birds also fed on maize once a day.

Hatyadeli Village		
Particulars	Caselet 1	Caselet 2
Name of the Beneficiary	Ditto and Khoora (2 sons and 3 daughters) Elder son has gone to Gwalior for studies	Pasu and Laxman (8 daughters and 1 son)
Livestock assets at present	2 cows, 4 buffaloes, 6 bulls, 14 sheep, 15 poultry birds (3 adult females and 2 males and chicks/pullets)	2 bulls, 3 cows, 1 calf, 5 goats, 3 poultry birds (2 adult females and 1 male and chicks/pullets)
Number of Poultry birds sold/died last year	2 sold and 5-6 died	Consumed only at home and 3-4 birds died last year
Reason for Mortality	Predation and Diarrhoea	Predation and Diarrhoea
Landholding and cropping pattern	4-5 <i>bighas</i> (1.6-2 acres) of land. <i>Kharif</i> crops of cotton and maize and <i>Rabi</i> crop of wheat are grown.	3 <i>bighas</i> (1.2 acres) of land. No knowledge of entire crop yield.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Rs 550 (2 birds sold for Rs 300 and 200 each)	Rs 1,500-1,800 (3 birds sold for Rs 500-600 each)
Other sources of income	1. Sale of 2-3 quintals of Cotton, 6-7 quintals of maize and 4 quintals of wheat.	1. Husband migrates along with elder daughters to work as wage labourers
Management practices being followed	No separate shed for poultry birds, Broody hens are kept in a hay-laid bamboo basket to hatch eggs. No medication is given to poultry birds when they fall ill. They are fed on maize and wheat grain twice a day.	No separate poultry shed or waterer for the birds. A bamboo basket is used as a hen coop and hung at a height over a roof made out of bamboo thatch, to prevent predation.
Chhapri Village		
Name of the Beneficiary	Nakku Bai and Rissu (2 sons and a daughter-in-law and 2 grandchildren)	Panglai and Madu (second wife of her husband and their 2 daughters and 3 sons)
Livestock assets at present	2 bulls, 1 adult male poultry bird	1 cow, 1 calf, 1 bull, 4 goats and no poultry birds (had 30 Kadaknath poultry birds)
Number of Poultry birds sold/died last year	Consumed only at home and 15-20 birds died last year	Consumed only at home and 25-30 birds died within the last six months
Reason for Mortality	White diarrhoea during December 2013 (<i>laar</i> was also quoted as a symptom)	White diarrhoea in November-December 2013
Landholding and cropping pattern	1 <i>bigha</i> (0.4 acres) of land. <i>Kharif</i> crops of soya bean and maize and <i>Zaid</i> crop of black gram are grown.	A few <i>bighas</i> of land. <i>Kharif</i> crops of soya bean, cotton and maize and <i>Rabi</i> crop of wheat are grown.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Nil	None (Earlier while rearing the Kadaknath unit, Panglai sold Rs 5,000-6,000 worth of poultry birds every year.)
Other sources of income	1. Sale of 1 quintal of maize, and 2 quintals of black gram (Soya bean crop failed). 2. Elder son and daughter-in-law migrate to Rajkot, Gujarat for 3 months to work in a cotton mill. They are paid Rs 200 per day. 3. Husband migrates to nearby villages to work as an agricultural labourer at Rs 60-70 per day.	1. Husband along with second wife migrates to Jamnagar, Gujarat to work as construction labourers for Rs 200-250 per day. 2. Sale of 7 quintals of soya bean, 2-3 quintals of maize and 10 quintals of wheat (Cotton crop failed).
Management practices being followed	Is a beneficiary of the Kadaknath project run by MPRLP. A concrete poultry shed with a door is in place. Since the poultry birds have died recently, she wants to keep the shed empty for 2-3 months prior to buying the new stock. Also has a feeder and waterer which was provided to her during the MPRLP programme.	Has a separate concrete poultry shed, which has a door. Goats are housed inside this shed now and it is kept locked from outside to prevent any theft. Willing to re-stock only after a couple of months to prevent mortality among poultry birds, lest the shed is still infected.

Ruparel (Control) Village		
Particulars	Caselet 1	Caselet 2
Name of the Beneficiary	Veer Singh and Jayanti (2 sons and a daughter-in-law)	Rutla Devan
Livestock assets at present	2 bulls, 1 calf, 2 goats and 15 poultry birds (5 adult females and 3 males and chicks/pullets)	1 cow, 1 buffalo, 2 bulls, 20 poultry birds (5 adult females and 2 males and chicks/pullets)
Number of Poultry birds sold/died last year	Consumed only at home. 7 birds died and 4 sold	Consumed only at home and 2 birds died
Reason for Mortality	Predation and diarrhoea	Predation, White diarrhoea, sticky feet
Landholding and cropping pattern	6 <i>bighas</i> (2.4 acres) of land. <i>Kharif</i> crops of cotton and maize are grown	27 <i>bighas</i> (10.8 acres) of land. <i>Kharif</i> crops of soya bean, cotton, maize and <i>Rabi</i> crop of wheat are grown. Water for irrigation is used from a neighbour's bore well, who shall be given 25 quintal of wheat in return.
Income from poultry rearing between February 2013 and 2014 (In Rs.)	Rs 1,200 (Each cock was sold for Rs 300 each)	Rs 6,500-7,500 (15 poultry birds sold for Rs 450-500 each during Diwali)
Other sources of income	<ol style="list-style-type: none"> 1. Son and daughter-in-law have migrated for a few months to work in stone breaking units in Jhabua. 2. Sale of 2 quintals each of cotton and maize. 	1. Sale of 25-30 quintals of soya bean, 2 quintals of cotton, 10 quintals of maize and 25 quintals of wheat.
Management practices being followed	Has a shed where all the livestock are kept together. Cleans the shed regularly. Poultry birds are fed on grains twice a day.	No separate shed for poultry. The poultry flock is fed on maize and wheat twice a day.



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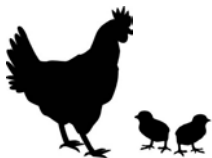
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Suggested Citation: SA PPLPP (2014), “Backyard Poultry Rearing – A Compilation of Case studies from Jhabua, Madhya Pradesh”

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SOUTH ASIA Pro Poor Livestock Policy Programme

A joint initiative of NDDB and FAO

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