Prevention of Newcastle Disease for Promotion of Backyard Poultry among Tribal/Poor Families in Rama & Petlavad Block, District Jhabua, MP

Project Completion Report

Supported by GALV med

Implemented by

Sampark Samaj Sevi Sanstha

Sampark Gram, Raipuriya - 457775, Jhabua, MP

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Abbreviations

BPL	:	Below Poverty Line
CBO's	:	Community Based Organization
DANIDA	:	Danish International Development Agency
DFID	:	Department for International Development
FC	:	Field Coordinator
FGD	:	Focus Group Discussion
GALVmed	:	Global Alliance for Livestock Veterinary Medicines
GP	:	Gram Panchayat
HH	:	Household
KVK	:	Krishi Vigyan Kendra
NRLM	:	National Rural Livelihood Mission
PAC	:	Project Advisory Committee
PBYP	:	Professional Back Yard Poultry
PC	:	Project Coordinator
PEG	:	Poultry Extension Group
PLA	:	Participatory Learning and Action
PRA	:	Participatory Rural Appraisal
PRI	:	Panchayat Raj Institution
SHG	:	Self Help Groups
SAMPARK, MP	:	Sampark Samaj Sevi Sanstha
ToR	:	Terms of Reference
VDC	:	Village Development Committee
0^0C	:	Degree Centigrade

1 Executive Summary

In the tribal dominated Jhabua district, Sampark Samaj Sevi Sanstha works with a vision of "exploitation free society in which all women and children have an equal opportunity for living happy and prosperous life." It implemented a 28 months long project named **"Prevention of New Castle Disease for Promotion of Backyard Poultry among tribal/poor families in Rama & Petlavad Block, District Jhabua Madhya Pradesh"** covered Rama and Petlavad blocks of Jhabua district in north-western parts of Madhya Pradesh **during 1st February 2015 to 31st May 2017**, which was supported by GALVmed. Main goal of the project was "to establish a community based private vaccinator system to ensure regular vaccination of all backyard poultry against Newcastle Disease (ND) to control the outbreak of disease and mortality among poultry birds." Project worked to achieve objectives of: Reduce poultry mortality rates by regular vaccination against ND and deworming; establish a dependable supply system of ND vaccine through medical retailers; and improve the community knowledge base and rearing practices to develop poultry rearing as a viable livelihood activity. The project included seven work packages.

1. **Mass Awareness for adoption of ND vaccination:** BYP extension groups (282), training for PEG, video show (1815), street plays, slogan writing, village level meetings, posters, and pamphlets.
2. **Vaccinators and Staff Training:** selection of poultry vaccinators (138), training of the vaccinators (138), vaccinator's monthly meetings (125), and exposure visit.
3. **Strengthening Rural Vaccination Supply System**: workshop on vaccine supply and quality assurance (6 medical shops), and cold chain maintenance training.
4. **Vaccination Campaign:** de-wormer, ND vaccine thermostable, and Fowl Pox vaccine.
5. **Knowledge Sharing:** Project launching ceremony (3), meetings with officials from government and banks, state level workshop; and state level project completion meeting.
6. **Monitoring and Evaluation**: ND adaptation study (quarterly data), project completion report.
7. **Equipment**: cool box (125), refrigerators (2), video projector (5), vaccination cum first aid kit bag (5), camera (2), and computers, printer and accessories (1 set).

Besides achieving the packaged activiites as mentioned above, project has also helped community to adopt best practices like feeding BYP by using feed mixtures procured or prepared locally from maize, daliya, fish powder, mineral mixture, groundnut cake and using feeders, plates, wooden box, utensil and plastic bins; proper housing; protecting chicks; candling; improved hatching on grass, rice puwal; pest control with local material like lime, tobacco, neem, and custard apple leaves. Relationship model **was effective** for poultry and small ruminants in association with AH department. It has helped backyard poultry keepers to get poultry related services through a cadre of 125 vaccinators. During the project period, 1450827 doses of de-worming; 1236520 doses of ND vaccination; and 106685 doses of fowl Pox vaccination-in BYP was given to 41271 poultry keeping families in 333 villages and resulting reduced occurrence of Newcastle diseases and reduced mortality due to it. The project impacted livelihood of small and marginal farm families through increased size of poultry flock, increased consumption, increased sale. This project has indicated potential of evolving BYP as lead occupation for small and marginal farm families in this region. It also indicates potential for **Special Rural Economic Zone** dedicated to BYP and goat rearing and improve livelihoods of small and marginal farm families.

2 Background of the Project

Sampark Samaj Sevi Sanstha, a society registered under the Madhya Pradesh Society Registration Act 1973, works with a vision of **"exploitation free society in which all women and children have an equal opportunity for living happy and prosperous life."** To achieve this vision it has implemented following projects for improvement of livelihoods of small and marginal families.

- 1997-2006: Comprehensive watershed development project: supported by DANIDA. The project included a component of vaccination and treatment of poultry birds in Petlavad block of Jhabua district, in which two centers were established to cover ten villages for vaccination services for poultry birds and goats. Project results helped beneficiaries against prevalence of disease and mortality among poultry birds and resulted in improved poultry production and increased flock size.
- Later SAMPARK, MP, participated in MPRLP project supported by DFID, implemented another project on similar lines in Rama Block from 2005 to 2011. It was also a great success.
- The approach was further improved and implemented by Sampark, MP with the support of South Asia Pro-Poor Livestock Policy Programme1 (http://sapplpp.org/) in ten villages of Rama Block to systematically establish poultry rearing as a viable livelihood option. The project technically supported by National Dairy Development Board (NDDB) and Food and Agriculture Organization (FAO).

Above projects made foundation for conceptualization and implementation of project on **"Prevention of New Castle Disease for Promotion of Backyard Poultry among tribal/poor families in Rama & Petlavad Block, District Jhabua Madhya Pradesh"**. This project was supported by GALVmed and implemented from 1st February 2015 to 31st May 2017 covering 330 villages in Rama and Petlavad blocks focusing on the ND vaccination and de-worming of BYP as major intervention. Project ran for a no cost extension up to June 2017 to wrap up the project and prepare final reports.

This Project Completion Report(PCR) shares; background, area description, target community, goals and objectives, activities undertaken, output, outcomes, achievements with regards to set objectives, project learning with regards to processes, sustainability and best practices adopted by community.

2.1 Project Area Description and the Target Communities

The project area covered two blocks of Jhabua district, which is located in the north-western part of Madhya Pradesh. It is tribal district with 87% of its population belongs to tribal (highest in the state). The district has six blocks – Ranapur, Jhabua, Thandla, Meghnagar, Rama and Petlavad. The project area community includes scheduled tribal families mainly Bhil and Pateliya, with a few Bhilala households. Altogether there are 1600 different hamlets. In these project villages, there exists 980 women SHGs formed under various government programmes (notably the Madhya Pradesh Rural Livelihoods programme), with 17640 members. Education situation in the district is poor as literacy level is 44.5% only (2011 census).

[1] initiated jointly by the National Dairy Development Board (NDDB) and the Food and Agriculture Organization (FAO)

The region is cheractrised by undulating stony hillocks. Soil is mainly red-brown, though black soil is also found in some areas. The area is which sub-humid to semi-arid climatic zone with an average rainfall of 700 to 1000 mm, precipitate in an average of 30-35 rainy days spread over in the four months of monsoon. The maximum temperature reaches 45-47ºC (May-June) and minimum of 8-10º C in the winter months. The main crops grown in the area are maize, soybean, cotton, wheat, green gram, pigeon-pea and red-gram. Most tribal households maintain cows, bullocks, goats and few poultry birds, primarily to meet household requirements of meat, and for sale at local markets. Traditionally they practice backyard poultry as a source of protein and also supplementary income.

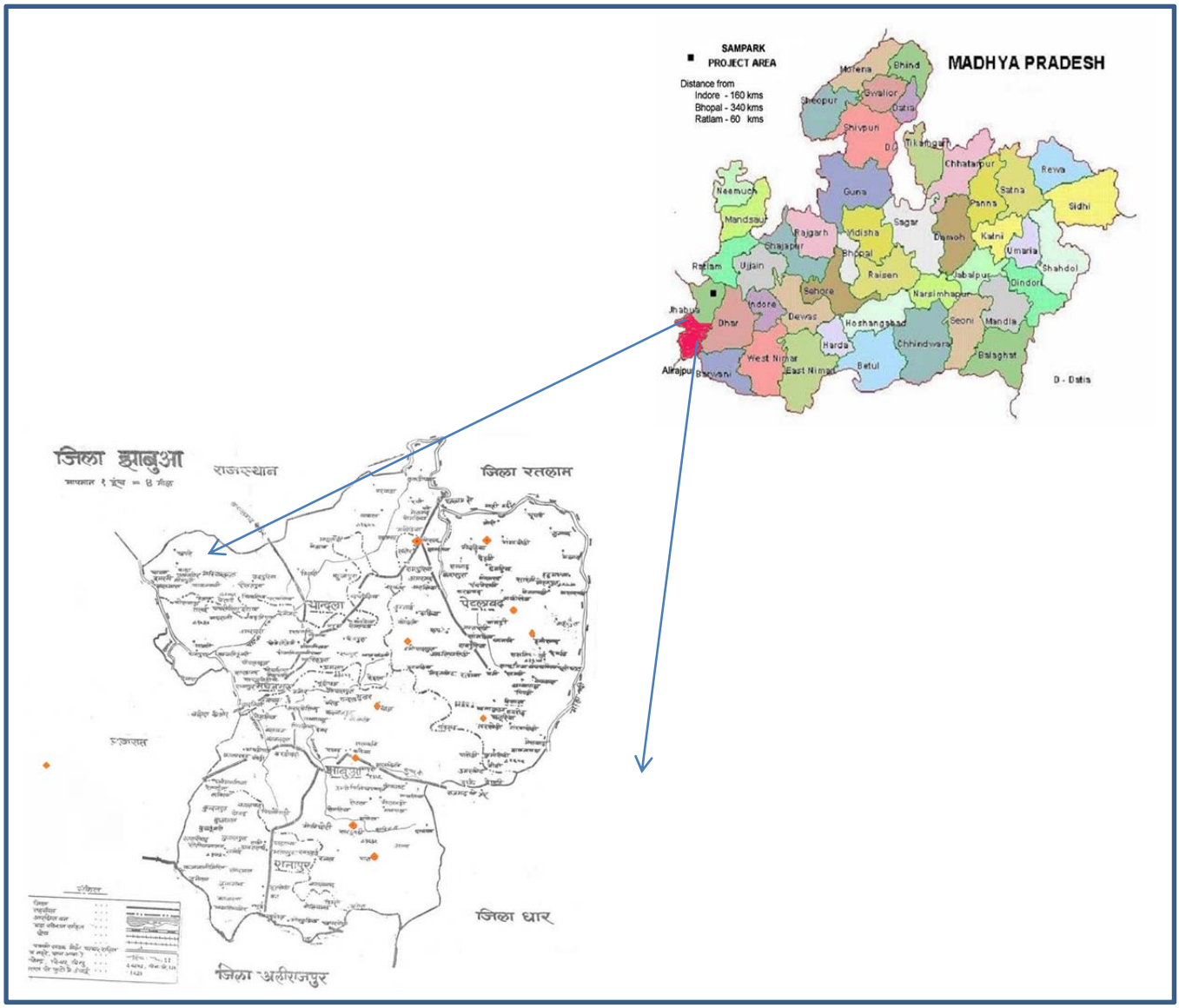

Figure 1Project Area Location Map

Table 1 Project blocks with total population

Blocks	Gram Panchayat	Villages	Families	Population
Rama	55	122	28831	103822
Petlavad	77	211	15845	157956
Total	132	333	44676	261778

In this area there are three distinct socio-economic strata within society based on investment and risk bearing capacity. These strata are associated with animal rearing practices namely a) **poorest: poultry focused, b) poor: goat focused,** c) **middle and rich cow and buffalo rearing.**

- Undulating area, brown to black soil. Each village has primary schools, but education standard for girl child is highly affected due to involvement in livelihood and mindset of parents
- About 57.2% of the families are BPL. Family size is 5.2 with the sex ratio of 1000:998.
- 35.17% male literacy and 21.31% female literacy for the block Rama and 46.06% male literacy and 28.16% female literacy in Petlavad block as per census 2011

Photo 1 Searching for water

Photo 2 A common house in Area

- Migration is the most significant adoptive measures for poor families.
- Small ruminants (goats) and Poultry birds are part and partial of coping mechanism for small and marginal farmers, but not as major occupation.
- Kadaknath is one of the desi breeds of poultry (Photo 3 & 4), famous for high nutritive values but this area still faces high level of malnutrition among women and children.

Photo 3 Kadaknath Chicken

Photo 4 A Flock of Kadaknath

2.2 Challenges Faced by Household Poultry

Before start of this project, Sampark, MP was holding regular consultations with its target communities. These consultations brought out that community in the area face following developmental and livelihood challenges realted to poultry.

Higher rate of mortality	• Prevaence of diseases • Preying animals and birds • Theft and hunting
Poor Growth and weight gain	• Lack of Quality Feed • Lack of Proper housing • Lack of Sufficient Feed
Poor Income	• Poor access to niche market • Exploitative sell system • Exploitative credits
Poor Resource Base	• No suppliers of desi chicks • Poor access to government schemes • Poor quality housing • Lack of basic infrastructures like road, and hospitals
Limited Interest of Youth	• Lack of Institutional Mechanism • Lack of Supportive agency • Lack of training and motivation oppotunity

Figure 2 Livelihood and Developmental Challenges related to Poultry

Above problems shown in figure-2 put together provide less work opportunities and limited income for poor families who are already deprived of sufficient resources and ultimately in less production in the area. This vicious cycle of poverty continues and families get pushed below this line, but during discussions people also indicated potential solutions.

Main problems faced by the tribal in scaling up their household poultry rearing into a viable business	**Preferred measures expressed by the people to promote poultry rearing during survey conducted in Rama block**
High mortality due to disease prevalence.	Vaccination & Veterinary assistance
Lack of feed	Availability of feed
Space constraints to house the birds properly	Support for poultry housing/cages
Predation by preying animals and birds when the poultry is grazing in the farm.	Technical assistance and direction
Lack of interest among youth to take up poultry as a profession due to the above constraints	Availability of Kadaknath chicks Availability of credit/ loans for poultry rearing

3 Specific Project Objective:

The project **"Prevention of Newcastle Disease for promotion of backyard poultry among tribal/poor families"** was initiated with the main goal of "to establish a community based private vaccinator system to ensure regular vaccination of all backyard poultry against Newcastle Disease (ND) to control the outbreak of disease and mortality among poultry birds."

- Reduce poultry mortality rates regular vaccination against ND and deworming.
- Establish a dependable supply system of ND vaccine and medicine in project area through private medical retailers
- Improve the community knowledge base and rearing practices to develop poultry rearing as a viable livelihood activity.

4 Project Activities and their Implementation

The project included seven work packages (Figure-3) and various activities as shown in table-2 to achieve its goal and objectives. This section discusses each intervention in its length and breadth so as to establish their relationship with project objectives.

4.1 Work Package 1: Mass Awareness for Adoption of ND Vaccination

This work package focused on improving community awareness and knowledge base on importance of reualr ND vaccination and deworming and improved rearing practices in backyard poultry, so that it becomes viable and sustainable livelihood. It included components of **video show, street play, group formation, exposure, slogan writing, and awareness rally**. Figure-4 shares details about various actions carried out under this package. Focal aspects of discussions under this work-package included scientific and professional approach in poultry rearing, and need of vaccination and de-worming to address Newcastle (*Ranikhet*) disease.

Street-Plays tried to compare common rearing practices such as lack of vaccination, no de-worming, limited or no proper feeding, with professional approach in BYP. Street-plays were organised at common places such as Haat-Bazar and Chopal initially during day time and later even during night times. Under the project all together 100 street-plays were performed.

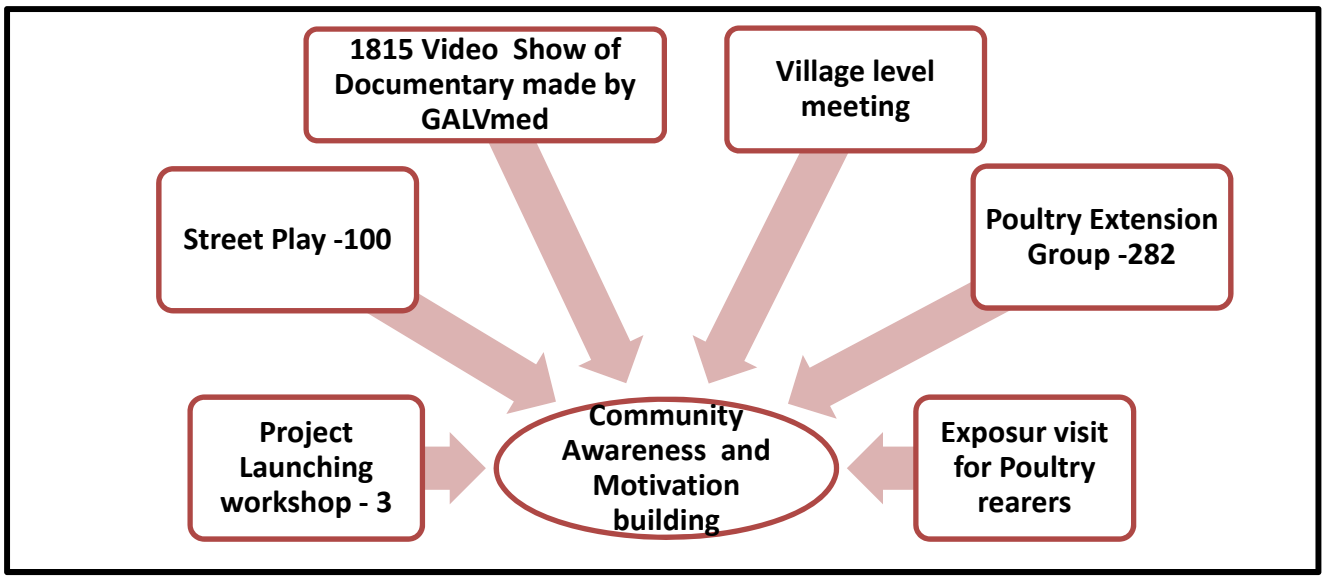

Figure 3Actions carried out for building community knowledge

In order to develop a team of folk artists, project identified local artists and provided them with two days orientation cum drama development workshop. In this workshop artists were provided basics about the purpose of project, activities, expected outcomes and impacts. During this workshop they developed some drama, and songs and shared with the selection team for approval. They also developed a song in local dialect spoken by tribal in the district

Rupya no hole hole, Ghughra re bhai bhai

Murga re tika karan karavjo re bhai bahi

Murga re de-worming karavjo re bhao bhai

Ranikhet Bimari re bhagavjo re bhai bhai

Later eight member team moved from weekly haat bazar to haat bazar and performed three to four drama in each haat for wider coverage. Community response was really very impressive and more and more areas could be included through this.

During first quarter it was planned to complete all the video show but it took more time to complete 1815 video show, using GALVmed documentary in 1600 hamlets by five teams each having two team members. With the support from project, 5 sets of projector equipment were purchased. Two clusters shared one set for video show. This activity was planned for first quarter but due to work pressure it has to be carried forward afterwards also. Based on previous practices about the meetings, initially project organised video shows during day time, but community participation was very poor. Then Sampark decided to organise this awareness programme in the evening time, but there were other challenges in the form of threat of burglary while coming back late night from

the field and nuisance during video show due some drunkard persons from community. It was decided then that video show teams will stay overnight with vaccinators to avoid threat of burglary. Within village challenges of drunkard persons was responsibility of village community. Each video show involved playing documentary followed by discussion about the issues such as economics of poultry, common problem in poultry, why it is important to vaccinate birds, feed management, deworming, what is Ranikhet disease, how it can be prevented etc.

Key Points of Awareness and training

- Livelihood potential of backyard poultry
- Day to day maintenance of poultry flock
- Challenges in Poultry rearing – common diseases
- How to address such challenges
- Schedule, approach, and Benefits of Deworming and Vaccination

Photo 5 Nukkad Natak (Street Play)


Photo 6 Awareness Campaign


Photo 7 Interaction during Exposure visit

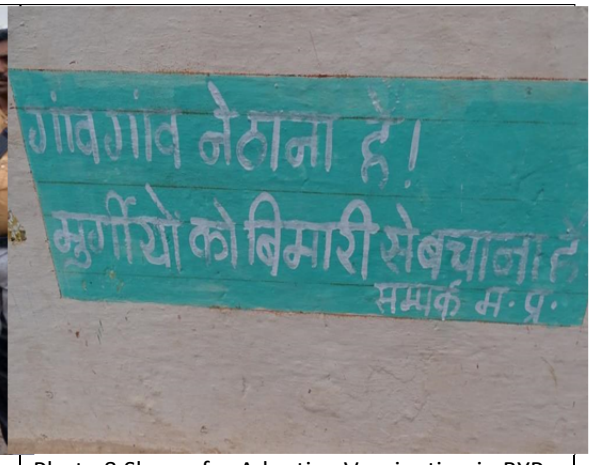

Photo 8 Slogan for Adopting Vaccination in BYP

Sampark, MP works with the philosophy of people's organization and advocacy with government so as to activate various departments and programs to benefit wider community. Poultry Extension Groups were formed with average membership of 10-15 women/men who have interest in rearing poultry

birds as backyard. These PEG were used to strengthen knowledge base on improved poultry rearing practices, poultry vaccination, deworming, housing, feeding etc. from 5th month onward and on monthly basis so that they really translate the learning into practice.

Project developed different information brochure, pamphlets, and booklets as IEC material and these materials were used during various village meetings and campaigns for building community awareness.

Photo 9 various slogans included in the programme

4.2 Work Package 2: Vaccinator/ Staff Training

Traditionally most families involved in backyard poultry follows subsistence approach and their earning from poultry was almost negligible. Under this project scientific approach in poultry rearing included preventing disease outbreak, feeding practices, housing, backward-forward linkages etc. It was proposed to develop a cadre of 125 *Pashu-Mitra* (Vaccinator). These vaccinators work on cluster approach to build knowledge base and services linked to poultry and goat rearing. This process included following steps (Figure-4).

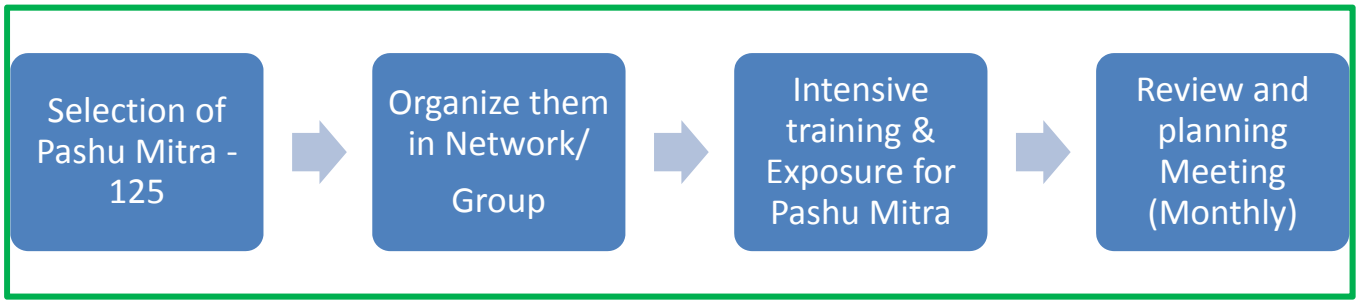

Figure 4 Process of establishing vaccination of poultry birds in the area

4.2.1 Selection of a Poultry Vaccinator

To establish community based system for preventive vaccination of poultry birds, women/men were identified for training on vaccination, identification of diseases, maintenance of vaccination records and on improved poultry rearing and management practices.

Before identification and selection of "Pashu Mitra" pamphlets were distributed in all the villages and business centers in the area. Initially 130 applications were received, candidates were assessed through a written test and interview organized at Rama and Petlavad block headquarters. Before assessment process candidats were provided opportunities for seeking clarification about the whole concept of "Pashu Mitra" so that properly interested candidates only join it. Later 145 Pashu Mitra from ten clusters participated in first training programme at Raipuriya. Main output of the project is a cadre of vaccinators locally called "Pashu Mitra". Photo-23 shares group of Pashu mitra.

Pashu Mitra Criteria

- Women / male older than 25 years, and who do not migrate in search of work.
- Basic literacy to maintain vaccination records.
- Nominated by community, have good understanding and rapport with different households
- Some experience in poultry rearing, and preferably have their own poultry flock
- Members of the PEG was given preference
- Ready to adopt vaccination as livelihood.

4.2.2 Training of the Poultry Vaccinator

145 women and men were selected for training, considering possible dropout, and finally 125 were involved as vaccinators. Their training included classroom and practical sessions. Training included following aspects.

- Information pertaining to various government schemes related to poultry rearing.
- Common diseases in poultry birds, their symptoms and how to prevent them.
- Types of vaccination for small chicks and adult birds.
- Period required for a vaccine to be effective in body after vaccination and duration of immunity after vaccination and how to perform vaccination.
- Seasonal variation in practices of poultry rearing.
- Different types of feed material, feeding practices and their role in better production.
- How to produce nutritive feed for poultry using locally available food items.
- Role of clean drinking water in poultry rearing and how to keep water safe and potable.
- What is candling and how to use it for perform "embryo testing" in simple way.
- Gender role in poultry, how women can earn better income through proper practices in poultry rearing.

Backyard Poultry Vaccination Training to PM/Vaccinators	• Four Days in the begining to selected - 158 (145 PM+13 staff) candidates in 4th Month of Project
Training – First Aid to PM/Vaccinators	• Two days training on "First Aid" after 6 months - 118+13=131 • Various common deseases • Vaccination against common deseases
Refresher Training	• Two days after one year to all selected and active candidates 62+13=75
Traning Advance Support	• Two days - enterprise management training to (26 + 10 staff) selected candidates • Common problem faced by vaccinators and how to deal them

Figure 5 Package of Training modules for "Poultry Vaccinators

Photo 10 Vaccinator Training

Photo 11 Training certificate distribution

4.2.3 Monthly meeting with Vaccinators

Every month, block level vaccinator meeting was held to review activities and constraints faced. These monthly review meetings also included some aspects of refresher on vaccination, care and management of poultry flocks. Project decided cluster level meeting of vaccinators between 1st and 5th of every month. This meeting was key activity for the project implementation as it provided opportunity for:

- Review of project implementation in different clusters including video shows, street plays, village meetings etc.
- For the performance of vaccinators it helps to understand who is performing very well and who is not able to do well.
- Which village is not responding to vaccination programme and what could be the reasons.
- That additional steps are to be taken-up to expedite progress in such poor performing villages
- This meeting was also used to grade vaccinators based on their performance so as to keep motivation on and also activate other vaccinators. Figure-6 shares situation with reference to drop-out (5%), regular (59%) and irregular (36%) vaccinations. Project used to give bottles of de-wormers to vaccinators whose performance was extra ordinary.

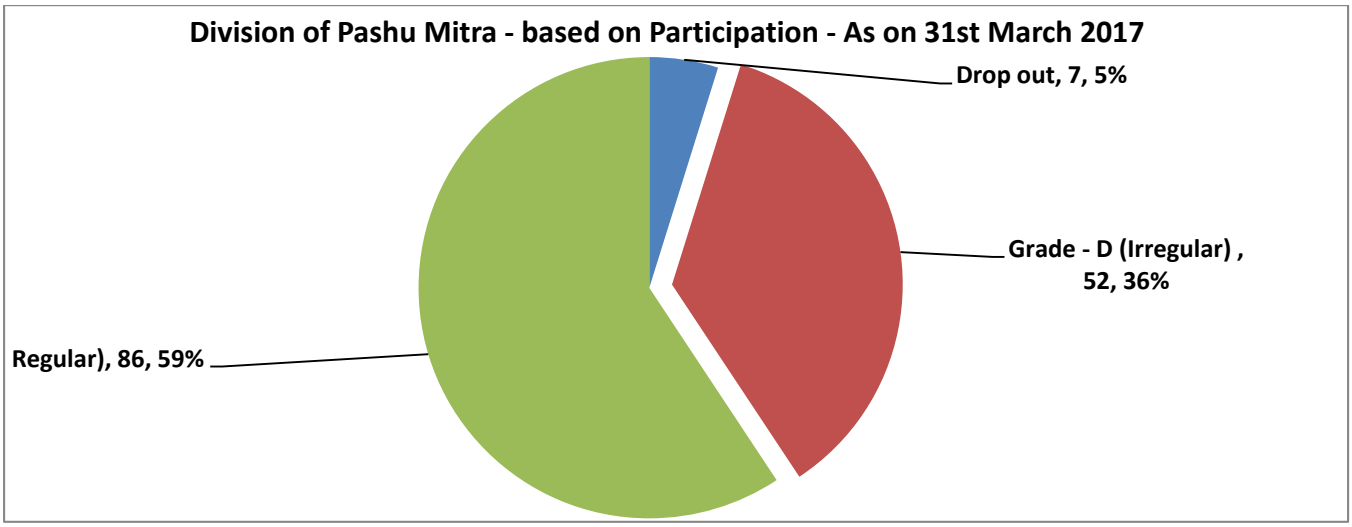

Figure 6 Analysis of Cadre of Poultry Vaccinators

Photo 12 Pashu Mitra Monthly Meeting-Barvet Cluster

Photo 13 Murgi Palak Training

4.2.4 Exposure visit of Poultry Vaccinators

Trainee poultry vaccinators were taken to Rama block villages where, Sampark has trained "Pashu-Sakhi" earlier during SALPPLP supported project in 10 villages. The trainee poultry vaccinators interacted with them and clarified doubts and discussed challenges faced and potential solutions. Another exposure was for the trained poultry vaccinators to Rama block where earlier Integrated Livestock Development Programme was implemented.

4.2.5 Staff Orientation Training and exposure

Two days long orientation programme for project staff was organized in 1st month to explain them about project objectives, strategy, activities, project coverage, project schedule and budget. Initially project team made an exposure to Baripada, Orissa, where they interacted with vaccinator trained in similar project run by BMPCS, another GALVmed project holder. Visit to Baripada and project villages of Asaldih, Basadihi, Dulidihi and Khuntpal was quite helpful in visualizing the project interventions, possible challenges and potential way outs. Staff could interact with vaccinators, field teams, BYP keepers and learnt following aspects beforehand.

- Criteria and process for selection of vaccinators
- Scientific approaches in BYP and associated features like feed, feeding, housekeeping etc.
- An eye open clarification was "vaccination is done beforehand not after the spread of diseases".
- Common problems faced by vaccinators, average income generated, services provided etc.
- Problem linked to collection of services charges, amount to be charged and how to keep record of vaccinations.
- Team also understood basic reporting system in the project.

4.3 Work Package 3: Strengthening Rural Vaccination Supply System

Sampark also tried to develop relationship model (see figure-7) among different stake-holders within the value chain of poultry in the district within project community. It has helped in establishing effective network dedicated to vaccination for poultry and small ruminants in association with animal husbandry department and vaccine producing companies. In this model "poultry vaccinator" is at the role of linkage between differnet services and service providers. In this model it has tried to establish relationship between different stakeholders. It has tried to strengthen regular vaccination and basic service provisions for reducing overall poultry mortality in the villages.

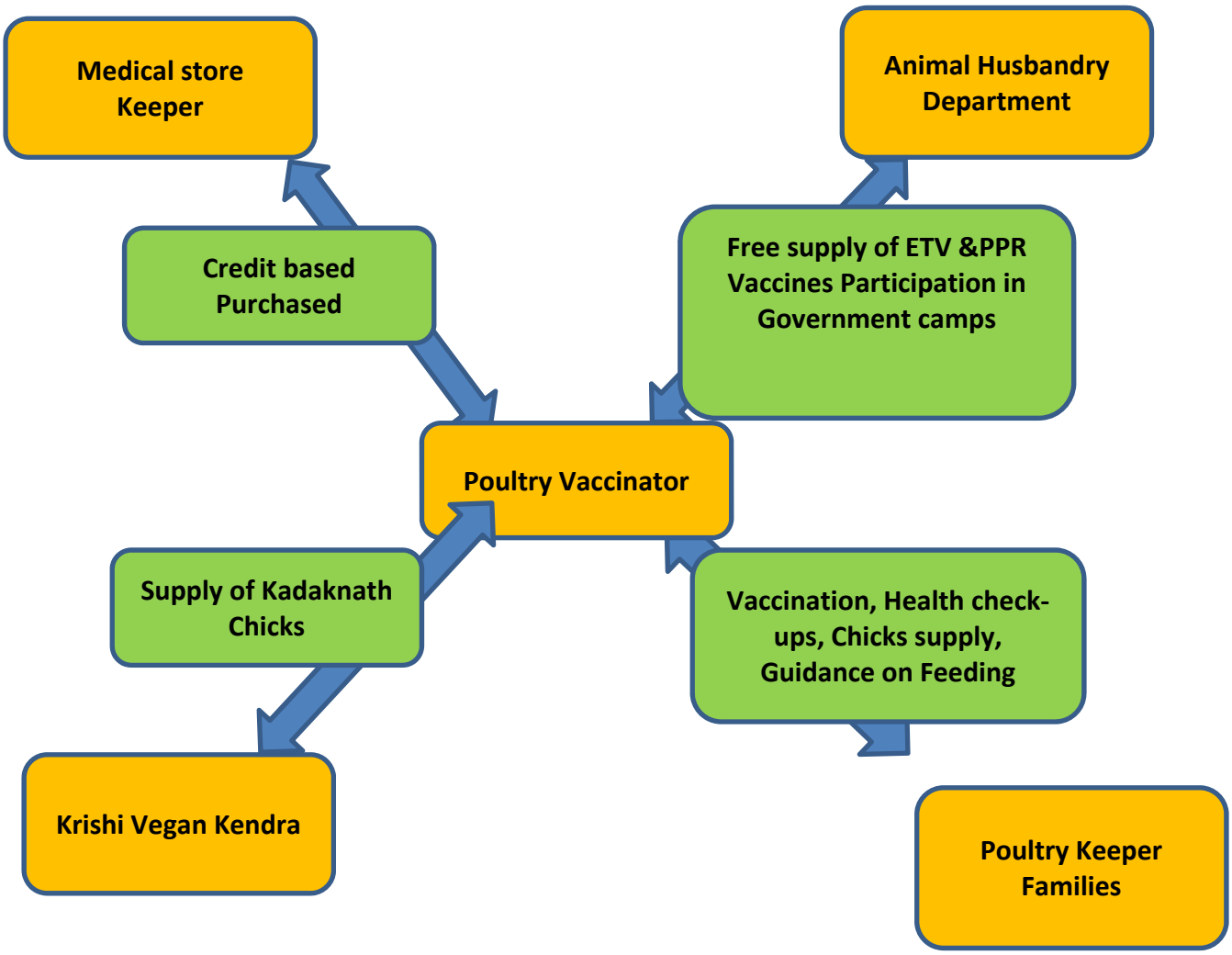

Figure 7 Relationship Model

Figure 8 Flow chart of vaccine supply system in the area and rate of per vial of 100 doses

During the project period, three meetings/workshops were organised to facilitate interaction with officials from government departments. Information and uptake on government schemes related to poultry rearing is extremely limited in the area, and this direct interaction motivated poultry keepers to consider accessing various schemes and share their problems with concerned departments. Barvet and

Karwad clusters in Petlavad developed an informal network of 15 Pashu Mitra and agency, where every month 100-150 vials of Lasota (100 doses) are administered into BYP (nearly 12000 birds).

Table 2 Shops involved in sale of Lasota vaccine and have their fridge to store them

	Name of the Retailer	Address
1	Abha Medical Stores	Main Road, Village & Post Kalidevi, Block Rama,Jhabua
2	Sivam Medical Stores	Village & Post Raipuriya, Tehsil Petlavad, Jhabua
3	Samay Medical, Sarngi	Village & Post Sarngi, Tehsil Petlavad, Jhabua
4	Lucky Medical Stores	Village & Post Para, Tehsil Jhabua, Jhabua
5	Sampark MP	Sampark Gram Raipuriya, Tehsil Petlavad, Jhabua
6	Sakshi Medical, Sarangi	Village & Post Sarngi, Tehsil Petlavad, Jhabua

Photo 14 Interface Meeting with Government department and stakeholders

4.4 Work Package 4: Vaccination Campaign

4.4.1 Village level Vaccination and Deworming Awareness Campaign

The first vaccination was conducted on 5th month after the video show in all hamlets. Vaccinators were ready by the time. ND vaccine was available in local retailers' shops. The main person carrying out the ND vaccination was vaccinators. Project disseminated messages through posters and other media. One week prior to vaccination, mass awareness campaign was launched, altogether seven campaigns were organised during the project period. 1st campaign was carried out from 25th June to 2nd July 2015. Follow-up campaigns were more intensive with two to three days in each cluster.

Photo 15 Vaccination through drop

Photo 16 Vaccination through injection

To support this work package and follow-up project used thermostable Lasota vaccine vial of 100 doses of Heister Bioscience Ltd. Each poultry bird is given one drop of vaccine through nostril or eye every three months. Once vial is opened, it has to be used same time therefore earlier information is given hamlet wise. Cluster coordinators used to visit different villages for feedback and also uncovered hamlets to organise meeting with poultry keepers for motivation. One week before vaccination, Pashu Mitra used to visit hamlets and carry out de-worming using "Albomor bottle" of 500 ml and 30 ml.

Sampark also tried to develop relationship model for effective vaccination for poultry and small ruminants in association with animal husbandry department and vaccine producing companies. In this model, it has tried to establish relationship between different stakeholders. Fowl Pox, vaccine which is available in the doze for 200 birds, was received free of cost from Animal Husbandry department and instituted twice a year. The vaccination was done by punching in skill underneath the fins. By31st March 2017 1450827 de-worming; 1236520 Lasota vaccination and 106685 fowl pox vaccination administered in BYP of 41271 families in 333 villages. Table-3 shares details about the clusterwise vaccination and de-worming.

Table 3 Clusterwise vaccination details

Cluster	Vaccinators	Active	Vaccinations	Fowl Pox	D-worming	Villages	Families
Bamaniya	14	9	115428	0	106470	38	4154
Barveet	13	10	130116	10040	149042	34	5040
Gopalpura	15	10	122386	7256	142423	32	4489
Hamirgarh	13	10	113046	6296	134942	34	3248
Kalidevi	22	12	129559	17889	180162	52	4326
Karvad	9	6	115521	12832	124739	28	6162
Khardubadi	14	13	137366	19968	188573	31	3982
Kheda	14	10	125139	22331	163016	26	3769
Para	11	10	130978	10073	145558	25	3167
Tarkhedi	13	8	116981	0	115902	33	2934

Total	138	98	1236520	106685	1450827	333	41271
Monthly Average			**61826**	**5334**	**72541**	**17**	**2064**
Monthly Average-Active Vaccinator			**631**	**54**	**740**	**3**	**21**

4.5 Work Package 5: Knowledge Sharing

Backyard polultry rearing is part of tribal livelihood. In order to spread the learning of this project to benefit wider community, project has perceived this work package of sharing knowledge. Right from the start of the project, it followed the approach of sharing with other stakeholders through organised events and regular interactions.

4.5.1 State level Workshop

State level experience sharing workshop was organised on 8th May 2017 in association with the animal husbandry department, government of Madhya Pradesh, at Bhopal. The workshop was attended by Dr. Bhagwan Mangnani, State Poultry Nodel Officer, Dr. Abdullah Tahir, Director GELVmed, Dr. Pitambar Kushwah, Dr. Rahul, Mr. Deepak Tiwari, senior reporter of the week; Bhopal, District level officials, pashu mitra/pashu sakhi, poultry keepers etc were among altogether 105 particiants. In this workshop pashu sakhi and poultry keepers shared their experinces during the project. Pashu Sakhi informed how this new occupation helped them to earn 5000 to 8000 monthy through first aid and vaccination particularly against ND disease. Poultry keeper women shared how vaccination helped in reducing mortality among birds and helped them to get more birds for sale and consumption also. Dr. Abdullah, informed participants that GELVmed will continue taking similar programs in other regions also, while representatives of department of animal husbandry shared that department will provide all the required support for the success of such an important program.

Photo 17 Photos – Glimpses of State level Workshop at Bhopal date 8th May 2017

Following are some of the key suggestions from workshop for success of the program.

- Animal husbandry department need to ensure availability of required number of vaccines for ET, PPR, Fowlpox, ND etc.
- Poultry vaccines need to be evolved as drop based rather than injectable type as it was experienced in the case of ND vaccination during the project.

- There is need to working on low dose size and making poultry vaccines thermostable targeting to BYP rather than poultry farms only.
- There is need for linking pashu-mitra/pashu-sakhi to e-vet program of animal husbandry department. It can be done by registering them at district level include for departmental training on poultry and goat rearing so as to provide better income generation chances.
- At state level particularly in tribal dominated districts it can be taken-up in mission mode so as to develop large number of *Pashu-mitra* and *Pashu-sakhi* to benefit more and more poultry and goat keeper families.
- In tribal districts like Jhabua, Alirajpur, Dhar, Barwani, Ratlam where poor families can generate better income through BYP and PBYGR under MNREGA priority can be given to poultry shed and goat shed construction.
- Under its Tribal Development Fund-TDF, NABARD can provide comprehensive support programme to devlop BYP for small and marginal families.
- Though under NRLM, poultry has been included as part of its regular support to women for adopting livelihood, but it can also be thought as area specific programme.
- KVIC has initiated new programme called SFURTI programme, which talks about the cluster development. Experiences of Sampark under this project has provided scope for develoing Jhabua as poultry-hub and it can be possible by developing poultry service providing as Pashu-Mitra and Pashu-Sakhi occupation as service provider category of cluster development.
- There is tremendous scope for identification and protection of local breeds and animal husbandry department has prime role for this, in which NGOs like Sampark can play critical role of quality participation of community.
- There is need for either developing small ruminant mandi for proper linkage to market, or creating separate space with existing APMC. Similar opportunity has already carried out at Karnataka state.
- There is wider scope of incorporating poultry as part of state strategy to fight against malnutrition among the tribal dominated districts through ICDS and other channels.

Photo 18 Photos – Vaccination during Campaign

4.5.2 Project Launching Ceremony

The project started with "District level project launching workshop" where all the stakeholders were involved. Sampark shared about the earlier work-done by Sampark for strengthening poultry based livelihood in the area. Programme also shared about the objectives and activities planned and implementation mechanism. This inauguration programme was attended by Mr. Chandrakant Borekar, the then District Collector, Jhabua, Mr. Dhanraju, CEO-Ajeevika Mission, Dr. Peetambar Kushwaha from GALVmed, other district and block level officials of Animal Husbandry Department. During this programme district collector asked animal husbandry department officials to support the programme and also converge their activities with Sampark to make it successful.

Photo 19 District level Project Launching Workshop

4.6 Initiatives by Sampark - Establish Poultry Feed Enterprises

Within this project Sampark also started training poultry keeping families on "how to prepare quality poultry feed" . The poultry feed preparation training is an exercise where participants bring ingredient components like wheat, maize, salt, etc., while other material is contributed by project. All the material is grinded properly and mixed well. They are also given information on proper mixing and what all materials are added. This demonstration helps women have visual effect and later they start preparing feed at household level.

Photo 20 Project Launching at Block level

Photo 21 Interface Meeting with Government department and stakeholders

The material quantity brought by participant is given back the similar quantity but with other ingredients also. Balanced material is distributed to other participants for demonstration purpose. Project also organized a block level "women poultry keeper forum" and started producing quality

poultry feed as pilot level and started selling this feed to people from other villages. "Pashu Mitra"/Sakhi are playing active role at this initial stage and picking up as new enterprise for them.

4.7 Work package 6: Monitoring and Evaluation

In order to take-up implementation of planned activities in timely manner efficiently and effectively project followed a mechanism and monthly review and planning right from the beginning of the project and followed it through.

4.7.1 ND Adoption Study

To measure the adoption of Newcastle Disease vaccination by farmers, 3 adoption clusters were set up in project area where ND vaccination data as well as number of bird present, number of of birds sold and consumed as household level were collected on quarterly basis. For the survey to be representative of the population in the area, a multistage sampling method was used. 50 households from each selected clusters were surveyed for baseline data in June 2015 followed by 5 follow up survey till January 2017 on a quarterly basis and using a set questionnaire. The data captured number of birds owned by poultry keeper; number of birds vaccinated against ND; number of birds consumed in a quarter; and number of birds sold in a quarter. The collected data reflects the adoption pattern of ND vaccination by poultry keepers.

4.7.2 ND Vaccine price structure analysis

Similarly another analysis carried out was that of ND Vaccine Price structures analysis. Present ND vaccine price structure in project area is analysed in the table-4 below.

Table 4 Price structure based on ND vaccine (Lasota 100 dose vial)

Distribution Level	Purchase Price/ Vial (Rs.)	Distribution Costs/ Vial (Rs.)	Total Costs/ Vial (Rs.)	Sale Price per Vial (Rs.)	Av. Net Profit/Vial (Rs.)	Av. Vials sold/month	Av. Total Net Profit/month
Main Distributor at district level	No	No	No	No	No	No	No
Sub-District Distributors	53.56	53.56	53.56	75	21.44	600	12864
Poultry Vaccinator	75	75	75	160	85	600	51000

4.8 Work package 7: Equipment Procured

Project motivated six medical stores to sell Lasota vaccines, but there was no distributor or sub distributor of Hester Company in Jhabua district and Sampark helped in connecting the medical stores for supply of ND Lasota vaccine. Two fridges were procured to store vaccines before supplied to the medical stores. Medical stores have fridge to store small quantity of various medicines. These fridges were also used for keeping ice available for cool boxes of "Pashu Mitra" for carrying vaccines from medical store to his/her field area. Project also planned to procure minimum-maximum thermometer, but it could not be purchased due to non-availability of proper model in the electronic shops in the area. Following tables shares about the equipment that were procured and utilized to perform various activities and produce desired outputs within project.

Table 5 Activities carried out under Workackage-7

Sly No	Equipment Procured	Number	Utilization
4.7.1	Refrigerators	2	Vaccine retailers
4.7.2	Video Projector, Battery & Speaker set	5 Sets	Documentary show
4.7.3	Vaccination cum first Aid Kit Bag	125 Bags	To 125 PM
4.7.4	Cool Box	125 Box	To Pashu Mitra for efficient transport of vaccines
4.7.5	Computer, Printer & Accessories	1 Set	Proper records
4.7.6	Camera	2	For capturing process

Photo 22 Projector Set –procured under equipment

5 Project Outputs

Detailed link between activities carryout under the project and resulted output and outcome is given in table-5 below.

Table 6 Expected and Realized outputs/deliverables of project

Planned Outputs	Realized Outputs
1563 BYP documentary shows, one in each hamlet, in the beginning of the project	1815 BYP documentary shows, at least one in each hamlet, in the beginning of the project
170 BYP extension groups trained and adopting ND vaccination and other management practices and serve as demonstration site for others	282 BYP extension groups trained and adopting ND vaccination, other management practices and serve as demonstration site for others
125 trained poultry vaccinators providing vaccination and health services in project villages.	125 trained poultry vaccinators (86 Active) providing vaccination and health services in project villages.
6 Medical stores doing quality ND vaccine retailing in project Area	6 Medical stores doing quality ND vaccine retailing in project Area
6 ND vaccination campaign during project period	6 ND vaccination campaign during project period
Regulardata collection for ND adoption study	Regular data collection and sending to GALVmed for ND adoption study
Monthly reporting as per agreed format	Monthly reporting as per agreed format
Monthly vaccine sale report agreed format	Monthly vaccine sale report agreed format
Quarterly Financial Report	Financial Report- every quarterly
Audited Financial report (six Monthly)	Audited Financial report (six Monthly)

Photo 23 "Pashu Mitra" Group

Photo 24 Poultry keepers receiving poultry chicks

Village level meetings were organized for proper introduction of “Pashu Mitra” and also decide upon the reimbursement of fee for different services. At district level each successful “Pashu Mitra” was provided with “First aid and vaccination Kit”. This programme was facilitated by presence of director Animal husbandry department, MLA, Officials of Sampark and project team. Candidates were also provided certificate of completion of training. Figure-7 gives detail listing of activities carried out by Pashu Mitra.

Figure 9 Work carried out by Vaccinators

Figure-10 also presents different activities carried out under the project and specific activity linked project.

Capacity Building of Project Team	• Orientation training • Exposure visits & training • Monthly Review and Planning Meeting
Linkage with Government Machinery	• Inaugeration of Project at district and block level • Interface meeting with government department • State level experience sharing workshop
Promoting Poultry Rearing	• Formation of Poultry Extension Group - 282 PEG • Campaign for vaccination and De-worming • Street Plays - 100 • Monthly village metings
Controlling poultry mortality	• ND Vaccination Campaign • De-worming • Vaccination against Fowl Pox
Establishing Vacciation and health care system	• Cadre of trained poultry vaccinators - Pashu Mitra • Training and Exposure of Pashu Mitra • Monthly meeting of Pashu Mitra
Creating Dependable supply of ND vaccine and other poultry related products	• Training and meeting with Medical store owners • Linkage retailers to vaccine suppliers
Community Knowledge building	• Village level Video show • Awareness meetings on de-worming and vaccination • Training of PEG members

Figure 10 Activities specific outputs

6 Project Outcomes

Following outcomes have been observed in project.

- Reduction in disease occurrence in poultry.
- Increase in the numbers of poultry rearing households.

- Improvement in management and rearing practices.
- Increase in the number of beneficiaries of poultry related government schemes.
- Increase in number of vaccinated birds and reduction in mortality due to disease.
- Improvement in the knowledge base of poultry vaccinators.
- Reduced mortality rates in chicks and adult birds.

Following paragraph presents results observed so for and the analysis is based on three data sets;

a) Quarterly data collected from poultry vaccinators on vaccination, de-worming, vaccine purchased

b) Data on vaccines sold by retailers.

c) ND adoption study: Sample response from three clusters namely Tarkhedi, Dokerwani and Saluniya Bada on quarterly basis

6.1 Increased participation of poultry keepers in vaccination (ND) and de-worming

- During the project period altogether 1107548 vaccinations and 1210000 de-worming were administered in project villages and it resulted in increased number of poultry birds as shown in figure below.

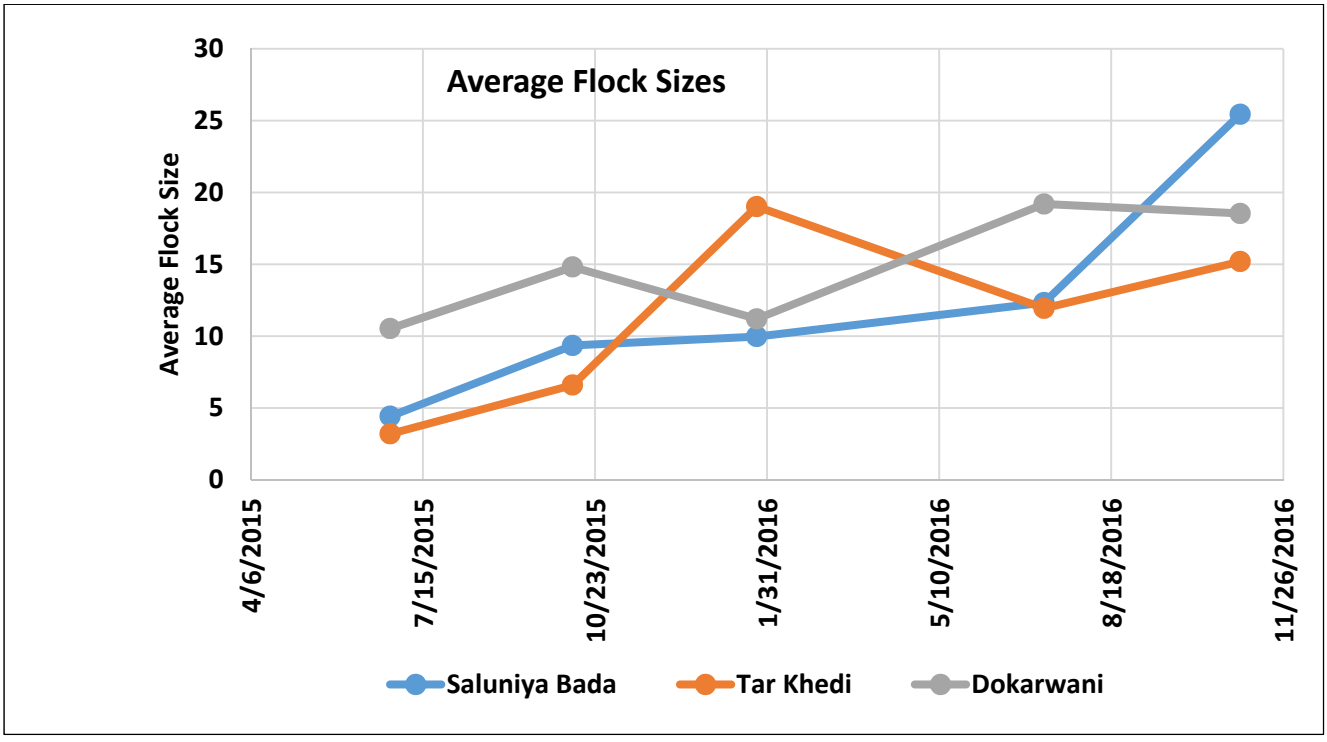

Figure 11 Average flock size changes observed in ND adoption cluster study

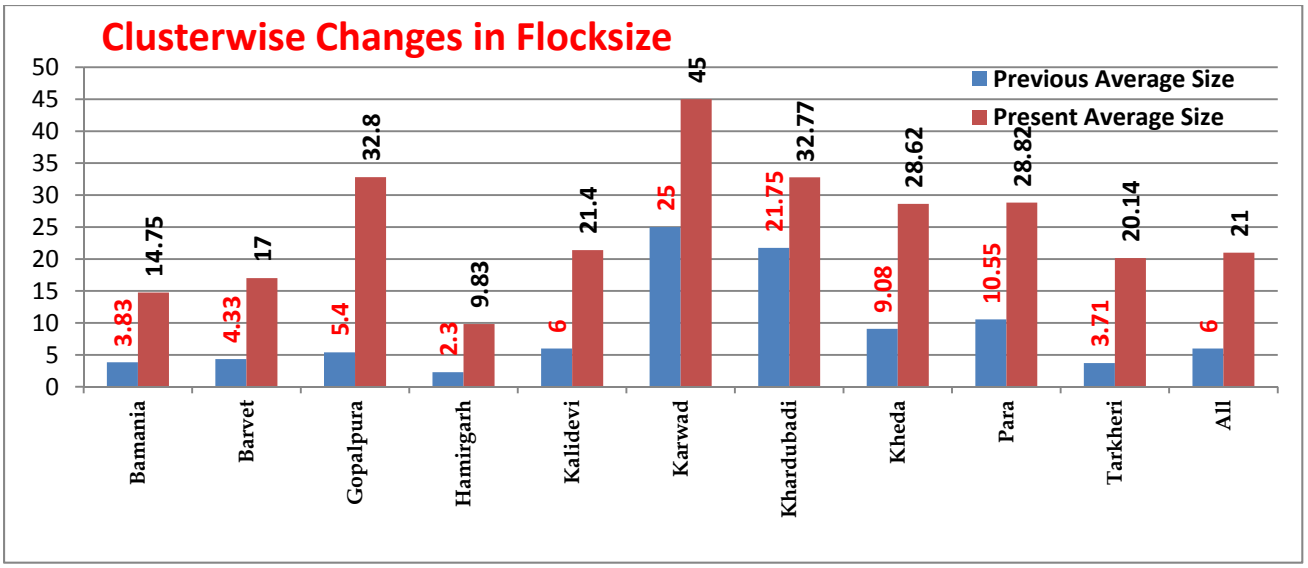

Figure 12 Cluster wise flock size changes as observed by project

6.2 Reduce poultry mortality rates regular vaccination against ND and deworming

Sampark collected monthly data on vaccination against ND and deworming for different cluster from May to December 2016. The data generated for the month of November 2016 is shown in Figure -13, where we can see that mortality due to prevalence of diseases and pray, indicates that mortality due to diseases is controlled to a larger scale, but mortality due to pray remains major concern for poultry rearing families in the area and needs immediate attentions.

- Overall mortality rate among poultry birds reduced from 76% to 20% resulting in flock size from average 6 birds to 15 birds. This increased contribution of poultry to family income from 2000 to 8000 annually.

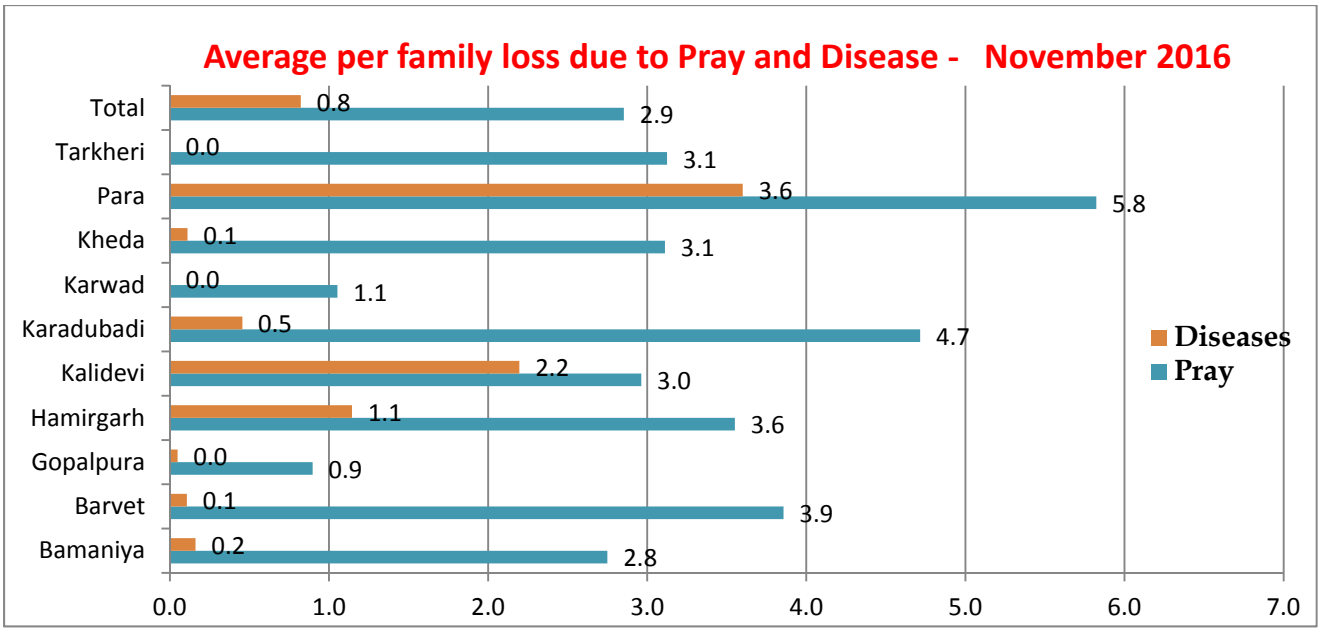

Figure 13 Mortaility for the month of Novermber 2016 due to disease and pray

- As indicatd in figure-13 during the month of November 2016; 2.86% birds died of diseases, which is remarkably low as compared to general situation. But another figure i.e. death due to pray is definitely a point of concern of (11.37%) and requires immediate attention in order to make whole process as sustained service system to make poultry provide continued livelihood for poor families As a result of project awareness level of participating families have increased which resulted in improved coverage of government schemes to the tune of 130% above pre-project situation.

6.3 Dependable supply system of ND vaccine and medicine through retailers

- The Network of 138 Pashu Mitra (86 active) created by this project is reaching average 1000-1200 families in 150 villages of ten clusters for vaccination, guidance, de-worming, and primary health services for poultry birds, as reflected in table-3 during the project period for families served and number of average birds. This indicates that number of families attended by "Pashu-Mitra" during a month is a little lesser and cannot be considered as full time livelihood option, there is need for further strengthen this whole network.
- As a result of project awareness level of participating families have increased which resulted in improved coverage of government schemes to the tune of 130% above pre-project situation. Project also mobilized government additional support for vaccination for PPR and ET poultry in the area.
- Figure-14 indicates small doses sold by retailer in the area indicate a clear-cut increasing trend during increase, which is also confirmed by the figure-05 vaccination details by Pashu Mitra. It also indicates increasing number of doses sold by retailers, which is further confirmed by figure-11 which indicates quarter wise average from 1st to 6th quarter, in an increase trend, but reduced sale in quarter six (need reasons behind it)

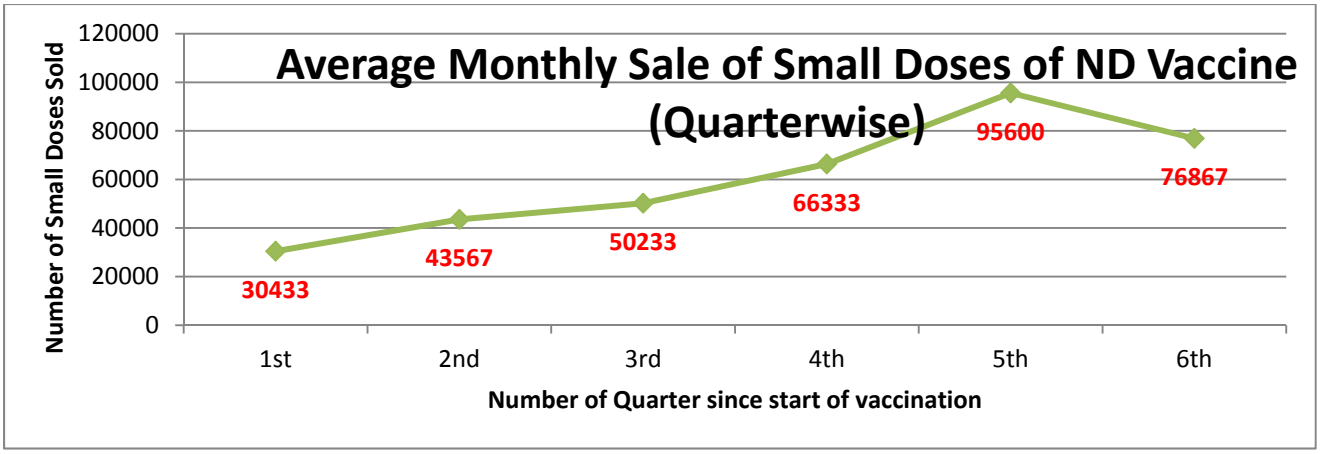

Figure 14 Quarter wise monthly average sale of small doses

- Project also collected monthly data on utilization of doses purchased virsus utilization, which is shown in figure-15. The figure indicates an interesting data that, August, December and May

are the months, where efficiency of dose utilization has indicated dip. In general thre is a trend of increasing efficiency in management of doses and reduction in handling losses.

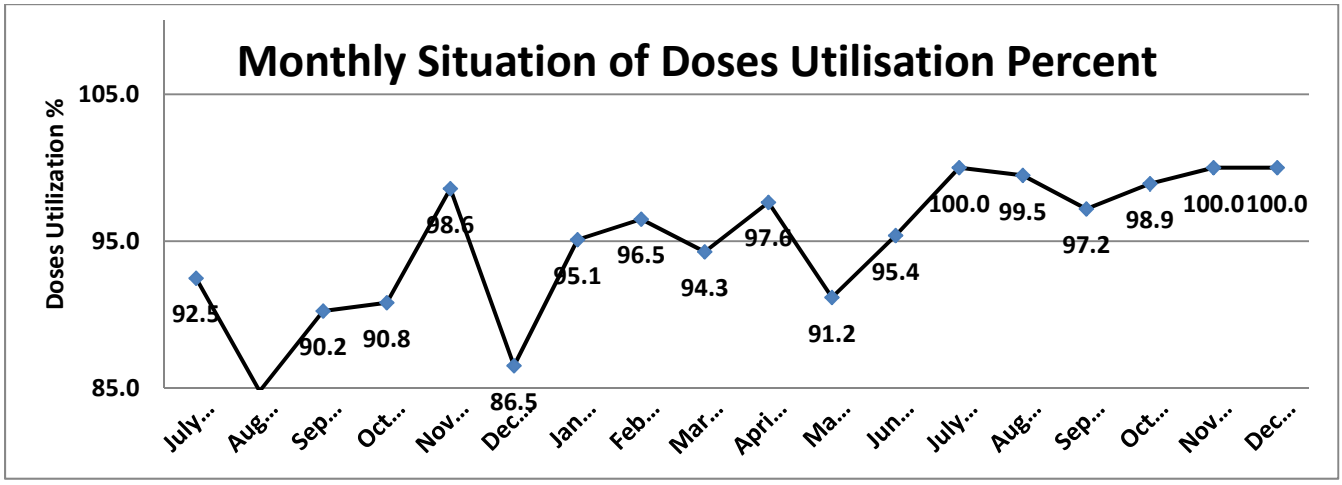

Figure 15 Monthly utilization percent of doses

6.4 Improved community knowledge and practices making poultry a viable livelihood

- Sampark tried to establish a system of community owned extension system, thus they have already identified 125 youth as vaccinator, further to establish grass-root community based system for preventive vaccination. Figure-16 shares various grades of Pashu Mitra as per their performance.

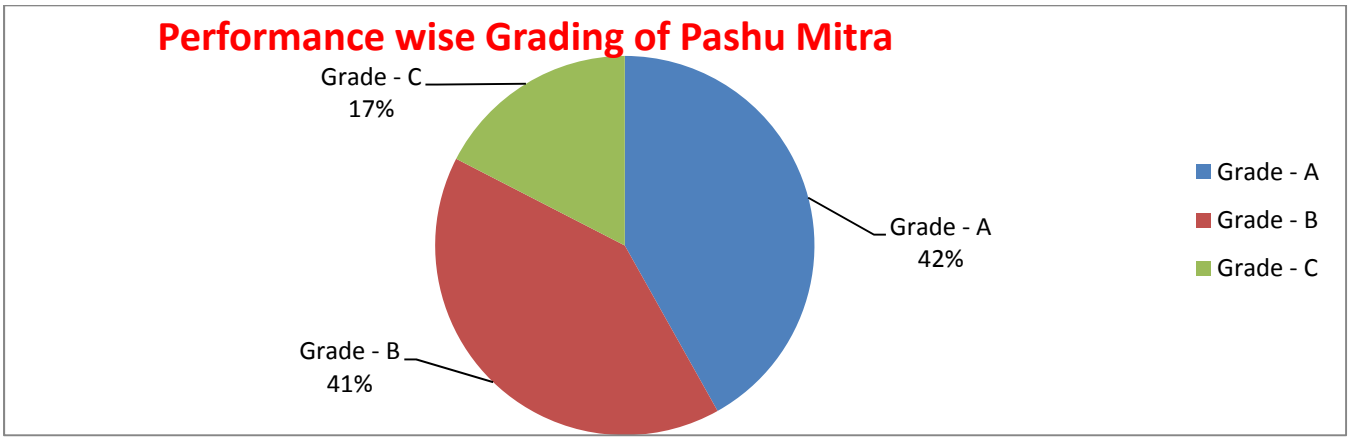

Figure 16 Grading of Pashu Mitra

- Mr. Hamraj Solanke who have under taken nearly 1500 vaccinations per month. Figure-17 indicates that still there is need for vaccinators to improve their performance to make this as income generation activity. For nearly 35% vaccinators (49) it is rather a time-pass activity thus they earn less than 1000/- per month. 28% vaccinators earn more than 2000 per month as a side activity. Sustainability will depend either on increased volume of work by these Pashu-Mitra or adding some more works to benefit them.

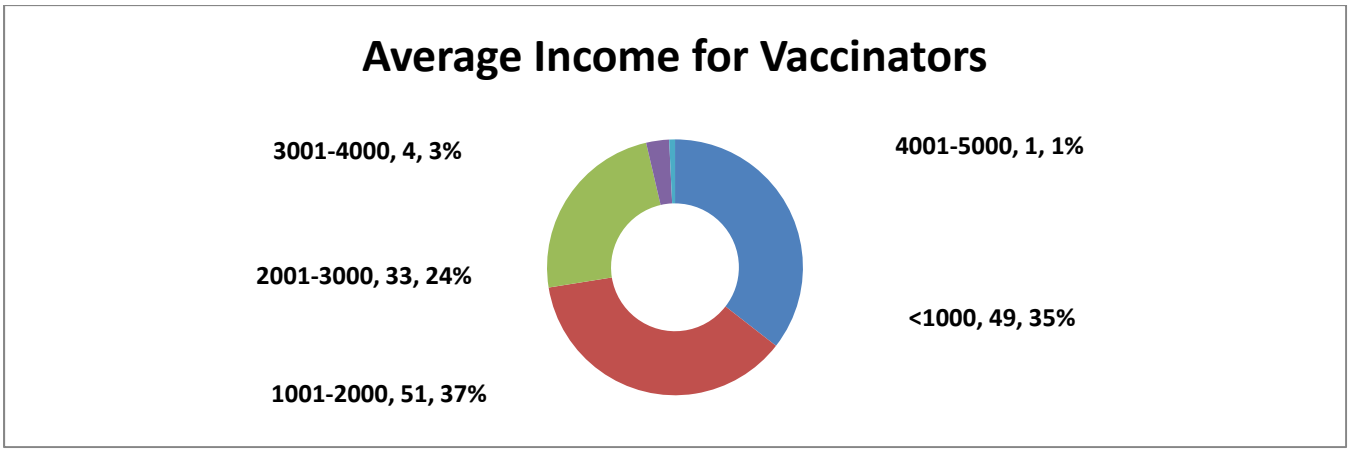

Figure 17 Average income for Vaccinators

- Women are closely associated with poultry, project has increased access of women to cash, create space for power, freedom of decision making to spend on books and fees for children's education and develop leadership qualities of women.
- In this area poultry and goat rearing evolved as source of significant income generating for Small and marginal families who are following BYP are also able to sale average 15-16 birds and earning around 9000 annually. This is also suported by Figure-18 indicates increasing trend in average number of birds in flock, consumed and sold in three sample clusters, based on information pertaining to previous three months. The graph indicates almost doubling of the sell, 4.5 times in flock size and three times rise in comsumption. Trend in flock size is stable while other two have varaibility.

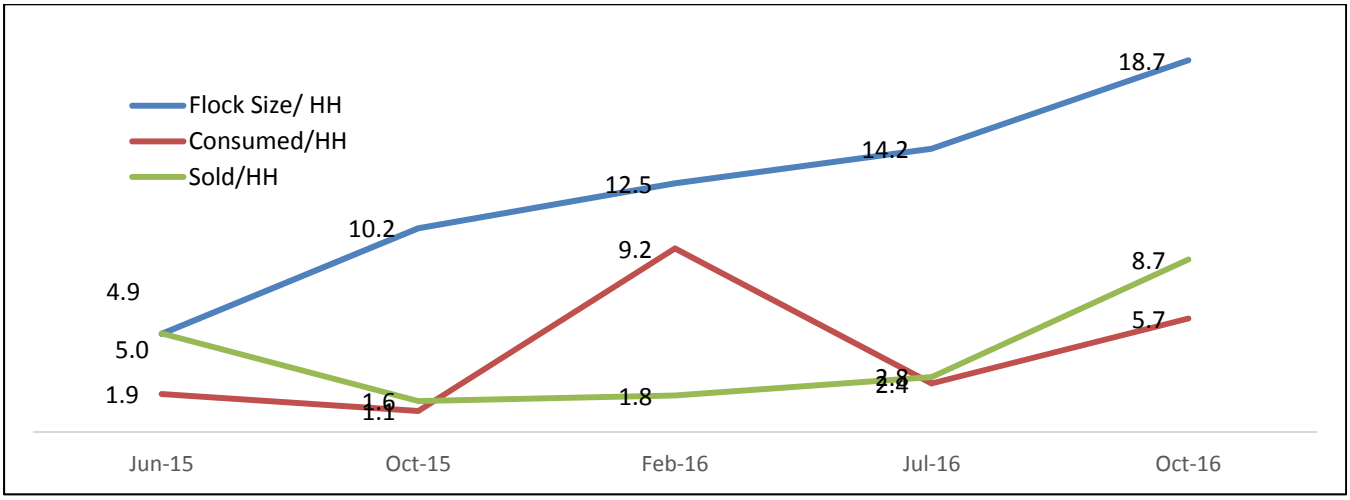

Figure 18 Average number of Birds sold, consumed and existing in flock in sample clusters average

- Nearly 16000 have adopted poultry as one of the major business activity and selling annually 30 and above birds and earning income more than Rs.18000 (average rate for local variety chicken Rs.600/-). This is also supported by analysis of quarterly data analysis as shown in figure-16
- For 15000 families' average chicken consumption increased from 2-3 annual to 8-10/family annually, adding to improved family nutrition.

7 Best practices in the field

Given below are practices followed by communities as best practices in BYP besides regular vaccination of their birds against ND and giving de-wormer..

Table 7 Best Practices followed by community and project

Category	Practice
Change in the Feed	Feeding Mixture of Maize and Wheat grain
	Adding Mineral Mixture and fish powder to feed
	Adding "groundnut cake" in the feed
	Feeding by purchase of feed mixture from market
Change in the Feeding practice	Feeding in feeder purchased from market
	Using household plate for feeding
	Feeding in wooden box, utensil and Plastic bins
Changes in poultry shed	Using traditional bamboo shed
	Using properly constructed masonry house
	Using earthen shed
	Using Mosquito net for
Candling	Checking eggs through bulb and mobile light
Hatching of eggs	Hatching on grass, rice puwal
Saving chicks from parasite attack	Adding lime, tobacco, neem leaves, custard apple leaves and or mix of all these

Photo 25 some of the Best Practices followed

8 Learning from Project

This project could lay foundation for the ultimate aim of establishing a community based private vaccinator system to ensure regular vaccination of all backyard poultry against Newcastle Disease (ND) to control mortality in poultry, but there remains need for strengthen this system by follow up to bring to the level of self-sustained mode without external inputs. During implementation Sampark made following learning through this project.

- The main component of project was on controlling Newcastle Disease to reduce mortality among poultry birds. Tool used was Pashu-Mitra", private service provider system in backyard poultry. It has helped in improving community reach to various technologies, programs, schemes and projects such that they help building sustainable livelihoods for poorest families through poultry and small ruminants based livelihood option.
- Initially project tried to create gender balance in selection of "Pashu-Mitra", but ultimately it could devlop 14 (10%) women and 124 men (90%). Among these 14 women majority 9 (64%) provides services in their own village only, remaining 36% covers two villages that are also nearby and newly developed ones. Men service provides normally covers three to four villages and maximum six villages covered by one Pashu- Mitra. This situation provides learning that if someone plans a project for Pashu-Sakhi (Woman Animal Helath Worker or Woman Vaccinatior), it will demand far more number as they will be covering mostly one village with coverage and limited income. This needs a separate strategy for an NGO or department.
- As poultry vaccination is comparatively a new occupation, developing skills of local youth takes more time than three trainings only. Sampark's experiences have shown that even after following precautions in selection of youth for vaccinator training, only 45% of the trained vaccinators have adopted this as one of their livelihood, thus there is need for taking into account a cushion of dropout of trained vaccinators.
- In this area traditionally most of the small and marginal tribal families keep poultry birds but do not make any investment in. Project has made them invest time and money in it. The results of whole project on vaccination have resulted in increase in number of birds, consumed and sold.
- Controlling ND along with other diseases in poultry and other small ruminants is another aspect which is of prime importance and this project has provided marvelous results. To make poultry

and goat rearing as key livelihood activity, there is need to work on fair market development to avoid potential threat of exploitation of livestock or poultry keeper.

- Programme on vaccination and or similar nature may get affected due to lack of timely supply of vaccines, therefore such programmes should consider properly developed supply channels, and also commitment from more than one product, technology, manufacturer or suppliers so as to reduce dependency and avoid negative effects.
- No doubt this two year long project has helped under-privileged families to understand importance of scientific approach in poultry rearing and the vaccinator are fulfilling some of their common requirements. But the vacciantors are mostly trained about vaccination and mainly on ND vaccination. There is need to make such programme more holistic covering other aspects of BYP and goat rearing through such private system.
- Sucessful results of following revenue model in the project has laid foundation for adopting it in the field of traditional occupation like backyard poultry, goat rearing, vegetable cultivation and many more. It has also given hope for similar approach in agriculture and allied occupations but in well planned manner with dedicated individuals involved in providing services.
- Beasides income generation poultry rearing is also important for fighting malnutrition among families of beneficiaries. The changes size of poultry flock indicates a shift from large number of families having less than 10 birds (average-6 birds) to more number having to 21 birds (350% rise). This increased number of poultry bird not only helps in increased income for all families but is important tool to fight malnutrition among children, adolescent girls, pregnant and lactating mothers for proper nutrition and health.
- In this area, earlier consumption of egg was very limited, but with the method of candling to identify eggs without zygote has helped to know difference between fertilized and non-fertilized egg and motivating for consuming eggs not fit for hatching and eggs consumption has increased to some extent; this change in behavior can be used to fight malnutrition among small and marginal families.
- **Ensuring regular suppy of chicks**: At district, there is a gap in the supply and demand of chicks of desi poultry birds including Kadaknath, this act as bottleneck for up-scaling poultry based livelihood at large scale. In the district Krishi Vigan Kendra there is a hatchery for Kadaknath, but can supply only 4000-5000 chicks annually which are inadequate to meet the increasing demand as indicated by the waiting list of back yard poultry keepers. Thus any such programme should also include component of hatchery at NGOs like sampark, private level or also equipping vaccinators as producer and seller for chicks of desi breed and Kadaknath variety, thus focusing on increased availability of chicks to improve backyard poultry.
- Project indicates potential for adopting scientific BYP as lead income generation source for small and marginal families in this tribal area. Thus forming a Poultry Hub by pooling potential existing schemes and programs from animal husbandry department, agriculture department, KVK, NRLM, Poultry Mission, national and international development agencies would be required. Thus sampark proposes creation of **Special Rural Economic Zone** in the tribal area of Jhabua and Ratlam dedicated to poultry and goat rearing.