



Sustainable distribution of Newcastle Disease (ND) vaccine as a way to control (ND), and improve poor livestock keepers' livelihoods in India - PRADAN PROJECT

FINAL EVALUATION

13th June 2013

Executive summary

PRADAN¹ (Professional Assistance for Development Action) is a voluntary organisation that was established in Delhi, India, in 1983 by a group of young professionals. It believes that the path towards conquering economic poverty is through enhancing the livelihood capabilities of the poor and giving them access to sustainable income earning opportunities. Challenged by the abysmal poverty of millions of people across India, PRADAN has resolved to reach out to 1.5 million poor people in the next 10 years as a part of its vision, PRADAN 2017. Currently, around 268 highly motivated and skilled professionals from management, engineering, agriculture, and the social sciences are working with over 206,298 families in 4,138 villages across eight of the poorest states in India.

The pilot project for the sustainable distribution of Newcastle Disease (ND) vaccines was conceived around 53 villages in the Banspal block of Keonjhar district in Orissa. After an initial positive experience, the project was expanded to 6 more villages in Banspal block and to 58 villages in adjacent Patna block. In total, this pilot project covered a total of 117 villages (7,587 households) in two blocks of Keonjhar district in Odisha state of India. The project period lasted 1 year and 11 months, and included 5 ND vaccination campaigns. The baseline study was conducted in May 2011 just before the first vaccination, and the final evaluation was conducted in November 2012 after the 4th vaccination campaign. Over 169,000 vaccinations were conducted.

The project faced big challenges, as there were outbreaks of Avian Influenza in the area that killed many poultry in the project villages. Despite this unforeseen challenge (which affected not only the number of birds, but also the morale of farmers and vaccinators), the project had a positive impact.

The results based on random questionnaires to 177 households showed:

- The number of poultry per household increased from 11.25 at the beginning to 22.64 at the end of the project period. This increase could have been because of no outbreak of ND

¹ http://www.pradan.net/index.php?option=com_content&task=view&id=16&Itemid=2



(that were typically seen twice to thrice per year before the project) or to an improvement in poultry management or both during the project period.

- The monthly intake of meat and/or fish in the diet increased by an average of 1.63 times a month per household.
- Weekly egg production increased by 0.42 eggs a week per household and monthly poultry production per household increased by 1.47 fold (from 3.30 to 4.84 poultry produced per month per household).
- The annual net poultry income was approximately 18,968 INR at the end of the project that represents an average increase of 5,180 INR (approx. USD 95.65) per household after the project intervention.
- Average poultry flock value per household increased by from INR 1,074 to INR 2,415.

GALVmed – PRADAN Newcastle Disease control pilot project Keonjhar Odisha (India)



Project Completion Report

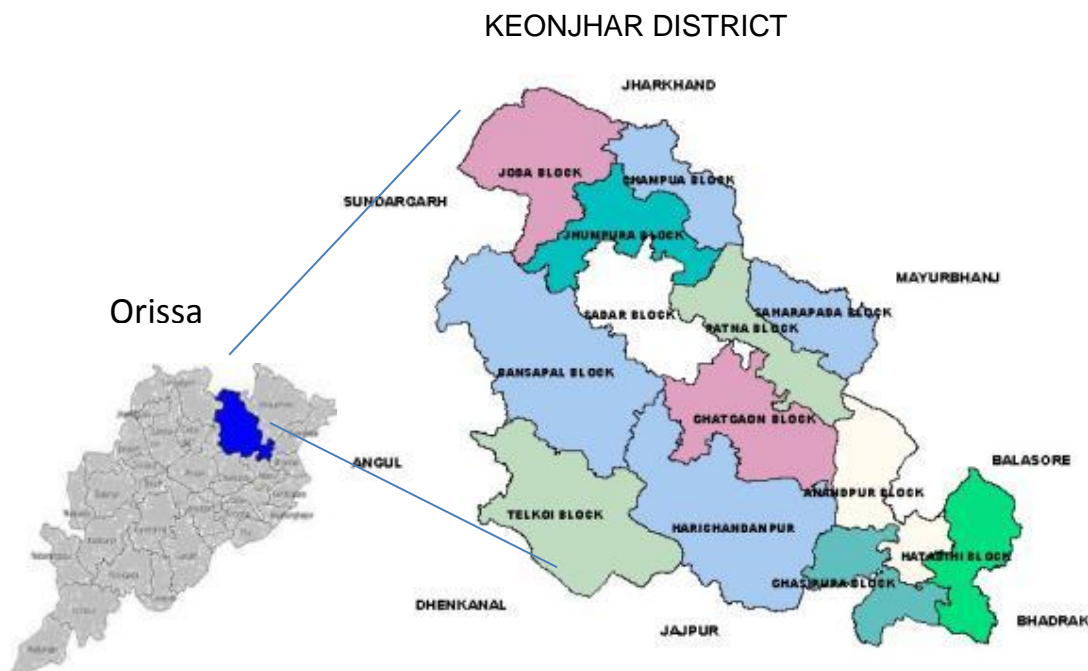
March 2011- December 2012



1. **Title of the project:** Establishing veterinary services for back-yard poultry birds and small ruminants belonging to poor farmers in Banspal block of Keonjhar district of Orissa, India.

2. **Overall Objective – To establish Sustainable private – public delivery systems for basic vaccinations of Backyard Poultry and Small Ruminants.**
This would be achieved through the following-
 - Fe/male BYP Keepers aware, conscious about ND and empowered to protect their poultry through vaccination to improve their poultry based livelihoods.
 - Community Animal Health Workers trained, motivated and providing services in a sustainable model
 - Setting up a sustainable vaccine value chain, from the last point of distribution (district level) to the farmer.

3. **Area Context:** The pilot project was initially implemented in 53 villages of 10 Gram Panchayats¹(GPs) of Banspal block in Keonjhar district. After initial positive experience, this project was expanded to 6 more villages of Banspal block and to adjacent Patna block covering another 58 villages in 9 Gram Panchayats (GP). In total, this pilot project covers 117 villages spreading over 21 GPs belonging to two blocks of Keonjhar district in Odisha state of India.



¹ Gram Panchayat-Local governing body -assembly of wise and respected elders chosen and accepted by the local community



The socio-economic profile of the project area is briefly described below.

Parameters	Banspal block	Patna block
Schedule Tribe ² (ST) %	79.3	52.9
Scheduled Caste ³ (SC)%	4.3	8.3
Below Poverty Line ⁴ (BPL)%	88.4	72.68
Population density per sq km	60	278
Literacy level (Percentage)	27	64
Terrain	Hilly terrain with high forest coverage	Undulated terrain with thin forest coverage
Community	Bhuyian, Juang & Gauda	Gond, Mahanta
Average annual income	Rs 22,000	Rs 30,000
Livelihood sources	Forest dependence (selling wood), Livestock rearing, wage labour and agriculture	Agriculture, Livestock and wage labour
Average annual income	BYP birds - Rs 4000	Goats- Rs 5000
Livestock population (average per family)	Poultry birds: 8-12	Poultry birds: 10-15
	Goats: 5-7	Goats: 3-5
	Cattle : 2	Cattle : 2

NB: Data source- Sample data collection from operational area and census 2001.

As seen in above table, the livestock especially backyard-poultry birds and Shoats (Sheep and Goats) have been the most significant contributor to the livelihoods of poor and marginalized rural fe/male farmers especially women, where it not only enhances their food security but also provides liquid cash to meet most of their cash flow deficits including emergencies. The poorer is the family higher is the relevance of poultry and shoats in their life. That is why probably poultry birds are called the poor women’s ATM and goats are called poor men’s cow.

However these livestock suffer immensely due to the absence of proper supporting health service systems in the area. The occurrence of diseases like Newcastle Disease (ND) and fowl-pox in case of poultry birds and PPR, enterotoxaemia and goat-pox in case of goats has

² Scheduled tribes are people that have primitive traits, distinctive culture, geographical isolation, shyness of contact with the community at large, and backwardness (as defined by Government of India: <http://tribal.nic.in/index3.asp?subsublinkid=303&langid=1>).

³ Scheduled Caste - Any of the historically disadvantaged Indian castes of low rank, now under government protection

⁴ Below Poverty Line is an economic benchmark and poverty threshold used by the government of India to indicate economic disadvantage and to identify individuals and households in need of government assistance and aid.



severely affected this sector by causing frequent mass mortality. In spite these casualties, the farmers do not give up rearing birds and shoats.

4. The model used in the execution of pilot project:

- 3-5 community animal health workers (CAHW) were selected in each GP by the already existing Self-help groups (SHG) members in respective area so that the CAHW can provide service to about 200 to 250 fe/male farmers residing in 2-3 villages. In this way the CAHWs can earn about INR 3000 per month by spending about 12-15 days a month.
- The CAHWs were prepared through a series of trainings on vaccination (ND and Fowl Pox) and de-worming of BYP; and PPR vaccination & de-worming of goats along with some livestock related first aid services in their localities.
- In each village, village resource person (VRP) usually a woman was trained to demonstrate good rearing practices and to provide support to the CAHW during vaccination, de-worming and medication process.
- The local poultry co-operative stocked all BYP vaccines and worked as a local stockist. Locally identified medicine stores or independent entrepreneur served as a local retailer for BYP vaccines at Block level for CAHWs. These CAHWs worked in close collaboration with Animal resources department so that they supported each other to make their work more effective.

5. Implementation:

The project implementation was initiated with a concept sharing and consultation event with Panchayati Raj Institutions⁵ (PRI) members and SHG leaders at panchayat level. In most cases, the participants internalized the need & importance of these services. The role of community animal health workers was largely conceived as the role played by “ASHA *didies*⁶” as in the case of human health services. Following this event, many SHG leaders and PRI members took responsibility and organized village level meetings to share about this project.

These village level meetings were followed by street plays (*palla*) enacted by local groups. This was organized to explain the objectives of the project and create mass awareness about the importance of de-worming and vaccination in poultry and small livestock in improving livelihoods.

As building local cadre for vaccination and de-worming was a key requirement of this project, all the SHG members of the GP organized meetings where 2- 3 community animal health workers (CAHWs) per gram panchayat were selected. A total of 25 numbers of CAHWs were selected from the 10 GPs.

⁵ A system of local Governance- a network of village panchayat (assembly of wise and respected elders chosen and accepted by the local community)

⁶ Women who provide basic health services like vaccination etc to children in villages and are paid by Government



In addition to this, one/two SHG leaders from each village were selected as resource persons (VRPs) who assumed the responsibility of organizing community around this and provide necessary support to the CAHWs during vaccination and de-worming activity. A total of 97 VRPs were selected from all the 53 project villages in Banspal block and given an initial training of 2 days. These VRPs were further trained for an additional 2 days, to demonstrate improved rearing practices such as better night shelter for poultry birds, drinkers and feeders using local materials and preparation of protein rich feeds like termite and azola etc. in their villages.

Orientation events were organized for both CAHWs and VRPs separately. This event helped the participants to develop better understanding on the potential returns from backyard poultry and goat rearing. It helped them to take the ownership of the project and gain clarity about their role.

A series of technical trainings⁷ were conducted for the CAHWs by GALVmed consultant and the local Veterinary Assistant Surgeon concerning administration of de-wormer and vaccines like Lasota, R2B, fowl pox for poultry birds and PPR and goat-pox for goats; improved rearing practices (proper housing, nutrition, sanitation etc.), cold chain, important diseases identification and their control. Issues like communication skills to deal with clients were also discussed. In all the technical trainings, theoretical and practical aspects were covered so that the participants felt confident to go to field.

A motivation event was also organized with help of external resource persons with an objective to train them for their future work that included dealing and interacting with community, communicating with others and leadership role etc.

To facilitate the work and enhance the efficiency, regular meetings at gram panchayat level as well as at project level were organized where detailed plans were made, progress vis-à-vis the plan was tracked, problems and concerns were raised, and actions steps were planned to address those concerns.

Simultaneously 22 SHG leaders were selected by SHG members from their respective area to act as member of Co-operative body conceived in the project. Three meetings were organized of all these leaders to generate common understanding about the need of this body and to develop strategy for the sustenance of this model.

In case of poultry birds ND vaccination, two types of vaccines were used. For birds under 3 months of age Lasota was used, and for birds above 3 months R2B was used. First two ND vaccinations were done free of cost for the farmers although CAHWs were paid honorarium by the project. Apart from ND vaccination, fowl pox vaccination, PPR vaccination of goats was also carried out with vaccine sourced from government Animal resource department and ND vaccines (Lasota and R2B) from private suppliers.

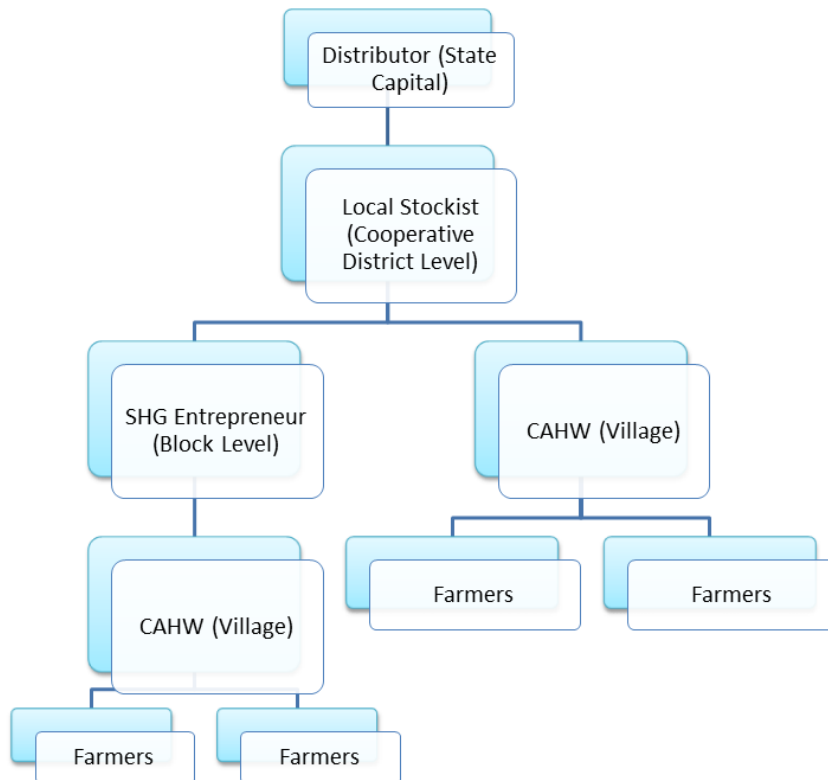
During the initial period, a good response was observed from the community to vaccinate their birds and goats. Within a period of two-three months of the vaccination process, it was

⁷ Trainings include a 3 day training in poultry deworming and vaccination, 1 day training on management practices, 1 day training on goats deworming and vaccination, and 1 day training on cold chain.

observed that ND outbreak was completely controlled in the vaccinated flocks whereas flock that were not vaccinated died in the same hamlets. Similar observation was also made in case of PPR outbreak among goats. The de-worming of poultry birds and goats got very good response from community when they observed visible gain in weight after the administration of the dewormers. Steadily the community in the project area as well as the CAHWs gained confidence on the efficacy of vaccination and de-worming process.

All together four rounds of de-worming and RD vaccination of poultry birds was carried out and one round fowl pox vaccination has been done. In case of goats three round of de-worming and two round of PPR vaccination has been completed in all the project villages.

Supply Line Model



6. Expansion:

After the initial round of success and excitement in Banspal, in response to the demand in the adjacent community, the project was expanded to two more panchayats in Banspal block and to nine panchayats of Patna block.

Patna block had a strong SHG federation which was explained the concept of vaccination, deworming and its benefits. They were taken to the Banspal area for an exposure visit to understand the ND vaccination done by the CAHWs and the benefits accrued by the farmers. After this exposure visit, the women members were convinced to start similar programme in their area and conducted the village level concept seeding meetings where they selected the new CAHWs by giving priority to women. In all they



selected 44 CAHWs (17 women) to cover 58 villages. These new CAHWS were taken to Banspal area and each of them stayed with old CAHWs for two days to experience their roles. This exposure and orientation program was very effective. The CAHWs in Patna block were trained as entrepreneurs from the very beginning. As the area is relatively better socio-economically and as the importance of vaccination in large animals was largely known, service charge collection from community was done from the beginning. The CAHWs were provided with intense trainings and vaccination kits. 3 out of 44 were dropped in initial two months period.

7. Outputs achieved:

Expected outputs	Achievements
Contact with at least 6500 HH rearing poultry and small ruminants established,	Contacted 12,000 HHs, 9,000 kept livestock and of those ones, 7,587 HHs have received vaccination services.
The interventions assist in mitigating direct losses due to NCD, and also addressing the indirect losses incurred by not following good husbandry practices,	The direct loss due to ND has been completely controlled in the vaccinated birds. 6 model villages showcase the good husbandry practices and it is spreading to other villages.
Along with the expected increase in productivity, it would lead to enhanced uptake of animal protein within the HHs and increase in income,	It is observed that about 30 to 50% of birds are getting consumed within the family.
The awareness created through extension is expected to capacitate fe/male farmers to ask for the vaccinations on time from the Animal Husbandry Department/CAHW as well as be capable of assessing it from the market/retailers,	Fe/male farmers are now demanding vaccination for their BYP birds, goats and some cases for large ruminants from CAHWs. However they are not approaching Animal resource department for the above since CAHW is easier to access.
Training provided to CAHWs, supervisors, retailers would ensure that quality of the vaccine is not compromised at any level,	Cold chain training has been carried out and cold chain maintenance is ensured at all the levels. It has also been found that where cold chain failed, vaccines were discarded by CAHWs.
Involvement of the Animal Health Department would ensure referral system and better understanding of the needs of fe/male farmers rearing Poultry and Small ruminants,	Relationship with the Animal Resources Department has been established right from the beginning. The CAHWs are in contact with Livestock Inspectors and Veterinary Assistant Surgeon for advice on

	animal health problems beyond their capacities.
The network of CAHWs established in the region would serve the purpose of surveillance and would be the first line of reporting in case any outbreak takes place,	In case of out breaks like bird flu and other diseases CAHWs are referring to LIs and VAS and in some cases samples are collected by CAHWs and sent to department for diagnosis.
A concerted effort together with other public and private sector partners will be made to establish sustainable distribution systems.	A constant effort has been made to establish supply line. The entrepreneurship model has been established for the self-sustainability of this initiative. However last-mile supply chain establishment is a struggle in Banspal area though it is not a problem in Patna block.

In addition to above outputs the following table shows the extent of physical targets achieved.

Sl. No.	Headings	Achievements	TARGET
1	# Vaccinators trained	77	69
2	# female vaccinators active	22	More than 35
3	# male Vaccinators	44	
4	# Vaccine campaigns	4	5
5	# HH covered/campaign	7587	9200
6	# ND vaccines used	1,69935	288000
7	# Birds De-wormed	1,82,493	288000
8	# Goats de-wormed	40,268	-
9	# Goats vaccinated PPR	27,802	-

8. Analysis and interpretation of key data gathered during the project

Some outcomes observed till date are as follows-

- Growth of BYP birds in Nitigoth village of Banspal Block in one year period as a result of this intervention: (total no. of fe/male farmers: 22)

Total poultry bird	Cock	Hen	Grower	Chick	Total
Average initial stock	0.27	1.82	0.77	2.77	5.64
Average present stock	6.14	3.5	11.45	9.09	30.18



- From base line data analysis it was found that the annual net poultry income was approximately 12978 INR at the end of the project that represents an average increase of 4,767 INR (approx USD 46.79) per household after the project intervention.
- It also shows that there is 76% growth in case of goats apart from selling and consumption and 472% growth in case of poultry birds.

Livestock population per HH	Goats			Poultry birds				
	Adult	Kid	Total	Cock	Hen	Growers	chicks	Total
Average 2012	7.68	4.168	11.85	2.85	3.36	5.48	12.11	23.81
Average 2011	5.59	3.42	9.01	1.25	2.23	1.88	5.92	11.28

9. Major Challenges:

Amid these positive outcomes some challenges came up which were addressed in various ways as mentioned below-

- **Bird flu outbreak in the area:** For the first time bird flu outbreak took place in the pilot area. About 40 % of the project villages were directly affected by this disease and it caused mass mortality. Moreover, where birds did not die of Bird flu, the fear of mass culling made farmers sell their birds at very low rates and they also consumed the birds. Various measures were taken to explain that the disease killing birds was Bird flu since this outbreak had created confusion in the minds of community that this might have been caused because of ND vaccination. Awareness meetings were organized; news-paper cuttings of bird flu outbreak were distributed etc. However this resulted in very few poultry birds left with the female farmers and that could not generate enough profit for the CAHWS to remain in business.
- **Dropout of CAHWs in the initial period:**
10 CAHWS dropped out of the initial pool of 24. The relatively high educated youth left when they got better opportunities to earn more. Some others dropped at a later stage when they found difficulty in the collection of service charge and in facing community post-bird flu period. Lesson learnt was that married person with relatively less education (below tenth standard) is more suitable for this role. Further, women CAHWs were found to be better workers when the potential business volume is present in their own village as it becomes difficult for women to visit other villages during evening hours for administering vaccination and de-worming services.
- **Low income realization by the CAHW** - Another major challenge faced in establishing this project was the low income realization by the CAHWs due to high predation and extreme cold affecting the chicks; remoteness and relatively small size of villages coupled with low paying capacity because of abject poverty. Further, relatively larger size vaccine packs e.g. Especially goat PPR vaccine (100 doses) caused losses due to underutilization of vaccine.



- **Cooperative of BYP farmers-**Another major challenge was in establishing co-operative system covering more than 6000 fe/male farmers as proposed in the original strategy. The intensity of engagement which would be required in establishing and running the co-operative would have to be of a very high order. This was based on the experience of running a similar co-operative body in Keonjhar to promote broiler poultry farming. After consultation with SHG leaders, and GALVmed. PRADAN changed its strategy. The new strategy adopted was primarily based on market led entrepreneurship model where CAHWS as well as other supply chain actors will provide their services as independent business player. This way we conceived the CAHW to purchase all the vaccines and de-wormers from existing medicine shops. They will mobilize community with the help of SHGs existing in the area and create & sustain their business on their own effort.
- **Cooperation from ARD department-** Although ARD was sensitized to the project from its inception, the livestock inspectors (LIs) in the area perceived the presence of CAHWs as threat to their business. Earlier the LIs were administering vaccination without maintaining cold chain. And the awareness developed about the importance of cold chain in the project affected their acceptance in the area. A series of events were organized to interface the CAHWs with ARD department staff (LIs, VAS and CDVO) to understand and appreciate each other's effort and to develop collaborative spirit.
- **Establishing supply line-** The existing broiler poultry co-operative of PRADAN serves as the vaccine supplier at Patna block level. However most difficult challenge was to establish bottom rung of the supply line in Banspal. The few existing human medicine shops in this remote area did not find supplying vaccine a profitable business as operating cost to run deep freezers, taking care during power failures, maintenance efforts etc. seemed to outweigh the income realization at current business volume. Small sized freezers have been installed so as to reduce maintenance and power consumption to make it more economical. Presently entrepreneur looking after SHG federation account is serving as vaccine supply point.
- **Cold chain maintenance-** Another challenge is to maintain cold chain during summer season while reaching to remote villages. This often resulted into losses to the CAHWs. We the vaccination calendar was designed in such a way that vaccination was done before summers began so that issue of cold chain maintenance in height of summer does not come up.

10. Lessons learnt

- Awareness creation through street play was a very helpful tool for mass awareness
- Inclusion of all households in this project has helped in creating mass mobilization
- Technical trainings by GALVmed consultant emphasizing on practical aspects of poultry health and husbandry practices, helped in building confidence among all CAHWs



- Looking at the context of this area (terrain, population density, literacy rate etc.) selecting critical number of CAHWs was helpful in reaching all the HHs although income per CAHW is only supplementary and it is not full time occupation.
- Monthly Gram Panchayat level meeting of all CAHWs and VRPs was effective for timely implementation of this program.
- Selecting women VRPs at hamlet level was helpful in organizing events, supporting CAHWs during vaccination and de-worming operations.
- Vaccinations for poultry and small ruminants provided as a package instead of focusing on only on ND helped in addressing the major livestock related problems and farmers' confidence in the project and CAHW increased.
- Flexibility in financial reallocation was very helpful in timely incorporation of learning's and bringing necessary changes in the program.
- Involving SHGs in the selection of CAHWs and subsequently in the mobilization of the farmers was very effective.
- Farmers should be paying for services from the start. This was a lesson that was incorporated when expanding to other areas.

11. Spillovers:

- **By area:** After one year successful experience in Banspal block, this program was expanded to 2 more Gram Panchayats of Banspal block and 9 GP of Patna block (from April 2012). Apart from this, CAHWs are extending their service to the nearby villages/ GPs, as well as to their relatives' villages.
- **By species:** Besides goat de-worming and PPR vaccination, sheep were also included. Post first aid training, some of the CAHWs gave first aid treatment to large ruminants. The ducks were vaccinated against ND by the CAHWs.
- **By diseases:** Apart from ND vaccination and de-worming of poultry birds, fowl pox vaccination of all the birds is also done. In case of goats, apart from PPR vaccination and de-worming, goat pox and ET vaccination was also carried out since it is epidemic in the area. Now in some villages people are demanding CAHWs for FMD vaccination of large ruminants.
- **By organization:** Looking at the success of this intervention other PRADAN teams working in other districts and states are now interested to take up this program in their operational area. A organizational level exposure cum orientation event was organized where the State management committee members along with few other team members participated. All the teams in Odisha are now showing interest to take up this program in their respective areas.

12. Sustainability of the project:

As conceived in this program, the outcomes expected from this intervention are largely realized in the area. ND in case of poultry birds and PPR in case of goats have been completely controlled in the villages covered by the project. The impact of de-worming of poultry birds and goats is clearly observed in the area in terms of the growth and luster indicating good health of the birds and goats. Female farmers have expressed huge



appreciation for vaccination and de-worming of livestock. The lost confidence on vaccination by community (vaccines were not effective earlier due to cold chain maintenance issue) has been re-established and the importance of cold chain maintenance is realized among the community. The overall mortality of small livestock population (poultry birds and goats) has significantly reduced which has restored the confidence of poor farmers to take up poultry and goat keeping as reliable and significant livelihoods opportunity.

As this service is available at the door step of the fe/male farmers at reasonable price, it is easily accessible and affordable by all the fe/male farmers including the poorest section. Presently all the CAHWs, who were trained through this project, provide all the vaccination and de-worming services comfortably within a very short time span (2-3 months). These CAHWs work as independent entrepreneurs and earn about Rs 2000 to Rs 3000 per month by spending about 10-15 days a month along with their other routine engagements.

The different aspects of sustainability of the intervention such as demand continuity, affordability from community side, timely availability of quality vaccines, financial sustainability of CAHWs and establishment of cold chain are found to be largely addressed. No. of fe/male farmers covered under this program has gradually increased and will continue to increase to avail this service. Collection of service charge is no more a major concern. Till date arranging quality vaccines (supply PPR and goat pox vaccines) has not been an issue which has further eased out by close collaboration with animal resource department. Majority of CAHWs are happy with the income they are getting from this engagement and no one has dropped out for financial reasons so far.

13. Conclusions and Recommendations:

Until livestock is promoted as a large scale income generation intervention, any poverty reduction strategy may potentially fail to achieve its goal. Focus should be on rearing both goats and backyard poultry birds in an integrated manner if any substantial gains in livelihoods have to be made.

To ensure substantial income to the fe/male farmers, along with focusing on checking losses due to mortality due to preventable diseases; the intervention should be more holistic in nature and include the following aspects.

- Service system establishment for preventive as well as curative disease control such as vaccination, de-worming, first aid and medication for the important prevailing diseases in the area under supervision of competent authority.
- Breed improvement
- Housing and nutrition improvement

However, for ensuring the above interventions on a sustained manner, this program should be designed for a minimum of three years period. Further, following should be adopted for effective implementation of this program.

- From the beginning payment for services should be ensured from the farmers irrespective of whether people know the efficacy of vaccination and de-worming before or not.



- The ARD department should be taken into confidence to develop partnership from the beginning of the initiative
- The recommended minimum unit to start with is about 15 CAHWs that can operate independently and in a contiguous patch covering about 4000 to 5000 fe/male farmers
- Criteria for selection of CAHW should be that s/he is married, less educated, preferably women and selection done by involving SHG members where possible.
- All supply chain actors as well as CAHWs should be promoted as independent entrepreneurs so that it should become market led intervention for its sustenance without dependence on any agency. However some or all of these actors may be subsidized partly till their business attains threshold scale.
- Supply chain:
 - small size refrigerator should be preferred instead of deep freezers to minimize recurring cost
 - The individual CAHWS should be able to access vaccines and others comfortably. In remote areas with poor connectivity the vaccine should be made available within a distance of maximum 5 kilometers.
- The CAHWs should be equipped to provide wide range of vaccination, de-worming and all first aid services to BYP birds as well as Shoats.

14. Quotes from the field

Below written few statements are the comments/views made by our communities

- ***“Pakha gaon re marudi dekhi, kukuda khaiba dina gala”*** (Previously I used to consume birds to minimize losses when there was ND out-break in nearby villages. But now situation have changed and I have let the head count of her birds increase without any fear.)

-Phuleshwari Dehury, Khajurimundi

- ***“Ebe kukuda-ghara na hele na chale”*** (Before last year, I didn't have separate shed for birds because it was less in number and could be easily accommodated in some corner of my home. But now I have built a poultry shed as the numbers have increased considerably.)

- Pratima Dehury, Adal

- ***“Kukuda khaiba ku kunia ba parba ku apekhya karibaku paduni”***. (I generally cooked chicken when guests visited or during festivals. But now I even cook chicken for children and husband on any week day)

- Khema Karjee, Dhanagadi

- ***“Ehi jojana mote puni sikhiba, padhiba ra sujaga dela”*** (In her childhood, Juanga people used to joke about schooling. When she was in class 2nd, she had to stop studying and later get involved in wage labor to support her family. She too was interested in learning and today she feels herself to be lucky to learn through livestock program in her village)



- Jai Juanga, Sumatha

- **“Gaon re mora sanmana badhichi”** (Now adays all the members of my hamlet are asking me all the details, once I go back from SHg leaders meeting.

- Haramani Mohakud, A board member, U. jagar

- **“Rojagara bhi badhichi, kukuda bhi badhichi”** (This year I sold birds worth Rs 3,500/- and still have 38 birds with me)

-Laxmipriya Mohanta, kumundi

Case-1: Story of Tirtha Naik

Tirtha an uneducated youth, who had never gone to school, was working as a wage labor in his village before initiation of the project. He also worked as assistant to the truck driver when he had no access to labor work. There was a constant struggle to make enough income to support himself and his dependent mother.



After his selection as a CAHW for two villages, he was trained in vaccinating poultry and small ruminants. He also received training in good husbandry practices and providing first aid. Thereafter he started practicing vaccination and medication of poultry birds and goats. Before the project initiation, he had no poultry birds but had 5 goats. Presently he has 22 poultry birds and 13 goats. In order to practice what he had learnt, he constructed separate sheds for his poultry birds and goats and feeds them Azola and white ants to improve the protein content of their feed.

He has earned Rs1500 from sale of poultry birds, Rs 900 from goats and consumed 5 birds. His monthly income from vaccination and medication ranges between Rs2000 to 2500 per month. He is very passionate about learning new things and propagating new technologies to his customers. His hard work and sincere effort has helped him to become independent entrepreneur. Besides financial gains he has earned recognition and respect from his community by being a CAHW.



Case-2: Story of Rasmita Naik

Rasmita Naik a housewife, used to do her household works and sometimes goes for wage work in her own/ nearby villages to manage her family. She was selected by her SHG to work as a VRP (village resource person) for her village during the initial period of GALVmed pilot project. After the drop out of the CAHW

of her area, she was chosen as CAHW by the SHG members.

Although her husband used to work as wage labor in the nearby mines, his ill health and closure of mine resulted in no income for the household. It was a difficult for Rasmita to run her family in this period. After her selection as CAHW and subsequent trainings, she started doing vaccination and de-worming in her operational area and gradually learned all the skills and gained the confidence of community. She is now earning Rs 2500 to 3000 per month and managing her family solely on the income generated from this work. She can afford clothes for her children; provide private tuition to her daughter which in turn has enabled the daughter to get a scholarship in class five. Apart from these things she has repaired her own house this year.

Now she is proud that she is managing her family and also getting respect from the community. Even her parents are proud of their daughter and the work she does. Her husband who does not keep too well supports her in managing household work and taking care of children. He even accompanies her when she needs to go to distant places for vaccination etc.