



Enhancing Agro-Vets' Capacity to Provide Better Service to Farmer

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July 2017

Background

In Nepal, the agriculture sector employs 68% of the total population and contributes to 33% of the GDP. Consequently, judicious use of Crop Protection Input (CPI) is not practised. It has been estimated that CPI is overused by an average of four times the optimal level. Furthermore, agro-retailers and agro-vets have limited knowledge in regards to diagnoses diseases as well as the recommended products available to counter such diseases. More often the retailers and agro-vets are driven by commissions offered by the CPI companies. This practice has resulted in a crop loss of up to 30%, and in most instances it is at the smallholder farmer level. Whilst at **Plant Protection Directorate** (PPD), the Plant Protection Officers (PPOs) who bear the responsibility to conduct agro-vet refresher trainings were never provided with regular inspector trainings themselves. As a result, there was a clear demand for upskill in these areas, so that these technological advancements could be rightfully transferred onto the agro-vets then dispensing this knowledge.

Samarth-Nepal Market Development Programme is a six-year, DFID-funded project that aims to increase the incomes of 300,000 smallholder farmers and small scale entrepreneurs applying Making Market Work for the Poor (M4P) approach.

Samarth-NMDP developed an intervention to enhance the capacity of agro-vets by strengthening the overall body responsible for delivering the training (PPD/PPOs).

Development of Intervention

On analysing the underlying constraints contributing to poor productivity at the small holder farmer level it was determined that information channelling on the use of CPI products and crop diseases were outdated as well as incentives being misaligned (sales being driven by company-based commissions for pushing the products in the market).

As per the Pesticide Registration Act (1991), and in addition to mandatory agro-vet licensing process, there is also a provision for three days training to agro-vets. Unfortunately, since the curriculum was designed twenty years ago, which has not since been updated, there was no incentive for either party to conduct the fee-based trainings on a regular basis.

To address the information constraints at the farmer level, retailers and agro-vets were identified as leverage points for dissemination of information on CPI products and its uses. The vision of the intervention was to increase the capacity of retailers and agro-vets through trainings and to transfer the knowledge from the trainings to the farmers as embedded services. With access to information on quality crop protection inputs, smallholder farmers would be able to make informed decisions on their purchase.

Additionally, the commission based marketing strategy adopted by companies have misaligned the incentives of retailers and agro-vets, of whom had become more concerned with sales figures and pushing products with high return-on-sale fees rather than providing the right information on the CPI products available and their correct use. The sales commission offered by the companies on the products have a large impact on the volume of the products sold by retailers and agro-vets and importers and distributors do not contribute much in the way of strengthening the technical capacity of the retailers, nor do they provide information to farmers through marketing. The companies consider dealers and agro-vets as the main entry points to market their products and often offer tangible goods (raincoat, umbrella, inverter etc.) as incentive for sales. Similarly, manufacturers from India lack concrete marketing strategies for Nepal as they consider it a very small market in comparison to other countries such as Turkey and Europe so it is a less significant market. With that being said, some companies do conduct marketing campaigns through their appointed country agent but this is only occasionally undertaken.

After a thorough analysis of the sector; retailers, agro-vets and refresher training providers were identified as intervention entry points in which to deliver the correct information on crop disease prevention and the use of right CPI, the aim being to increase the productivity at the small holder farmer level. Based on this analysis, Samarth designed an intervention called **'Enhanced agro-vet capacity to provide accurate information to farmers on the judicious use of CPIs and crop protection techniques'**¹. Samarth partnered with PPD to provide training to agro-vets. However, in absence of well-trained trainers, the refresher training wasn't able to be assumed in the first instance so the Plant Protection Officers (PPOs) – those who are responsible for providing training to agro-vets - undertook a Training of Trainers (ToT) course first. Following the ToT, agro-vet refresher training was conducted by the trained PPOs in 22 districts.

¹Sector Analysis and Vision Document- Crop Protection Inputs

Implementation of activities

In order to have success with this intervention, it was crucial to partner with the government as they had a pivotal role in training and channelling information to the retailers and agro-vets. Samarth facilitated meetings with Department of Agriculture under Ministry of Agriculture and signed a Memorandum of Understanding (MOU) with them. As per the MOU, PPD partnered with Samarth and developed a work plan to conduct activities as planned.

Development and approval of Training of Trainers' (ToT) curriculum

As a part of the initial set of activities, Samarth supported PPD in the development of the ToT curriculum and in updating the agro-vet refresher training curriculum. Once ready, PPD arranged the National Plant Protection Organisation (NPPO) board meeting to endorse the curriculum. As it is mandatory for the curriculum to be approved by NPPO members so it can be formalised within the government system, a board meeting was held on the 24th December, 2015. Twenty members from NPPO took part in this meeting. After the incorporation of all constructive feedback, the curriculum was approved by the board.

First phase training: Training of Plant Protection Officers (PPO)

Soon after the endorsement of the curriculum by the Government, Samarth facilitated PPD to roll out PPO trainings. The approved syllabus served as a basis for conducting the TOT training, of which the main agenda was to provide the latest information and data on pesticide, pesticide management and application, and information on prevailing Acts, regulations and rules as set by the Government of Nepal regarding pesticide uses and misuses.

The seven day PPO training was organised in two batches; the first lot was organised on 1st February 2016 with **19 PPO** participants from 14 districts, the second lot on 1st August 2016 with **16 PPO** participants from 11 districts. The sessions were delivered by experts with extensive knowledge and experience in pesticide management and application, including the Director General of the Department of Agriculture (DOA), Pesticide Registrar and Senior PPOs from Plant Protection Directorate.

Second phase training: Training of Agro-vets (AVs)

After training the PPOs, the trained PPOs conducted agro-vet refresher training using the agro-vet recently-approved syllabus in their respective districts in conjunction with the support of Samarth. Samarth team members coordinated with the Plant Protection Registrar and Senior Plant Protection Officers from the central office in Kathmandu, as well as in the districts, to endorse the training and ensure its timeliness. The Pesticide Registrar and Senior PPOs visited the highlighted Districts to support some classes and to provide quality assurance, as per the required Government standard. 21

"We (DoA) have signed an MoU with Samarth to implement the Plant Protection Officer training programme from agro-vet level to the farmers' level. Through the programme, we aim to enhance Pesticide Inspector Capacity and effective management of pesticides from legal and practical provisions in trading and farmers' application level. We have endorsed training curriculums with improvement in methodology and mobility where we tend to develop the knowledge and skills of agro-vets on pesticide management. The Government will further use the curriculum for pesticide inspector training, pesticide traders training and monitoring the agro-vet performance to measure the effectiveness of the training. This, in the long run, will help in food safety and pesticide management."

Manoj Pokhrel,
PPO, PPD

trainings were held in total, covering agro-vets from **22 districts** from February 2016 to January 2017 with approximately **492** agro-vet's participating. The 22 districts covered were: **Rukum, Bara, Dhanusha, Dhading, Jhapa, Kailali, Bardiya, Bhaktapur, Dang, Rupandehi, Tanahu, Kathmandu, Sindhuli, Lamjung, Surkhet, Banke, Kanchanpur, Dolakha, Kaski, Baglung, Parbat, and Lalitpur**. Since the trainings have taken place, the agro-vets have been providing embedded services to the farmers by providing reliable information about the product being sold in combination with information on its correct application procedure, safe handling and safety measures.

Survey and findings

After successfully completing these exercises, it was important to measure the impact of the intervention at the market player level (agro-vets) and farmer level. To measure the impact, two surveys were conducted across selected districts with selected respondents: The Market Player Survey and Impact Survey.

Market Player Survey

To measure the success of the intervention and to understand the market systems changes triggered by the intervention, a market player survey² was conducted. The study was conducted amongst 70 selected agro-vets in seven districts namely Jhapa, Dhanusha, Lalitpur, Tanahun, Dang, Bardiya and Kalilai. The results revealed that 92.9% of the agro-vets were satisfied with the training. Knowledge retention among the agro-vets was also significant as 39.5% confidently remembered the proposed application and safe handling requirements of the CPI pesticides, 26.2% on the banned pesticides, 14.5% regarding the necessary waiting period between applications and planting and 11% remembered the key requirements of seed storage and stocking. 87% of agro-vets reported they have experienced a positive response to conducting their business and knowledge sharing between farmers after the 5-day refresher training. The sales of CPI has also increased for 47.1% of the agro-vets whereas 41.4% have seen no change in sales. The average customer base of the agro-vets has increased to 450 farmers as 67.1% of the agro-vets reported an increased number of customers after the training, which highlights the marketability of such sessions

Impact Survey

Following the Market Player Survey, the Impact Survey was conducted for farmers purchasing crop protection inputs from the agro-vets who had taken the 5 days' refresher training. The survey results revealed that 78.22% of the respondent farmers purchased CPI from the trained agro-vets. The majority of the respondent farmers stated that they chose the trained agro-vets over those who had not undertaken the sessions as they felt that the training provided them with the necessary information and accreditation to support how they best approach use of their CPI's.

To measure increased productivity at the smallholder farmer level, the farmers had to reduce disease incidence and correctly apply CPI. Of the respondent farmers who purchased CPI's from trained agro-vets, 53.42% of the farmers reported a decrease in incidences of plant disease. It was also found that majority of these farmers (87.90%) had correctly applied their CPI's. The success of the intervention

²Market Player Survey Report

contributed to a positive income change of **NRS. 7,042** per household annually for **21,656 farming households**.

Lessons

Designing a complex intervention like this one requires lots of research, information and inputs from a broad range of experts across the programme as well as Government and external agronomists. Throughout designing, modification and implementation phases of the intervention, there were a series of complex constraints that the programme needed to address. One such example was in regard to the measurement of the results obtained from the intervention. The intervention was implemented in 22 districts with agro-vets having differing levels of education and experiences, this resulted in difficulties for the result measurement team who wished to develop a right combination of indicators to correctly capture the beneficiaries at farmers' level. With efforts from team, and significant specialist, they were able to capture authentic beneficiary-level results.

Much of the root cause was poor knowledge at the Government and agro-vet level due to lack of appropriate trainings for the agro-vets in a timely manner. Based on these findings, PPD was identified as a key partner as they were the main governing body responsible for asserting the necessary agro-vet standards as well as the issuing of agro vet licenses. PPD was positioned to amend the regulations and mend loopholes in the system to bring sustainable changes to both the agro-vet curriculum as well as the mechanics and reach of the trainings and information.

The effective design and efficient implementation of intervention, both at the Plant Protection Officers level and agro-vets level, with the target to improve the functioning of the market system to has led to improved performance of agro-vets. The training has added value not only by increasing their collective knowledge of CPI's but also by improving their capacity to service the farmers. The farmers are satisfied with the improved assistance being provided and, as a result, are choosing trained agro-vets over those who have not undertaken these courses.

Conclusion

The intervention '**Enhanced agro-vet capacity to provide accurate information to farmers on the judicious use of CPIs and crop protection techniques**' was designed after thorough analysis of the situation of agro-vets and farmers in the Nepalese agro-market. It was developed and implemented in close coordination with Plant Protection Directorate (PPD). PPD has contributed notably to establishing the approval of the ToT and refresher training curriculums through the NPPO board and in providing these trainings across 22 districts. Subsequent to completion of the intervention, PPD has decided to continue these post-closure of Samarth. Recently, the District Agriculture Development Office (DADO) in Jhapa received a high demand for second lot of refresher training after the successful completion of the first, which was first supported by Samarth. Furthermore, PPD has also made the refresher training mandatory for agro-vets for the renewal of their business licenses.