

# GOOD PRACTICES 54: AUGUST 2022



## PIGGERY FARMER FIELD SCHOOL: BUILDING THE CAPACITY OF TRIBAL WOMEN IN PIG FARMING



*This good practice note shares the experiences of Misha Madhavan M and co-authors in organizing a piggery farmer field school for tribal women farmers in Assam, India, and delves on how such a group-based extension approach aids in empowering tribal women in pig farming.*

### CONTEXT

Pig farming is highly integrated into the lives of rural women in the North East region of India. The region is home to nearly 47% of the pig population. Every rural household in the region rears a pig or two for their emergency needs or as a source of income. Backyard pig farming is very common among tribal communities, and its development is key to the growth of the piggery sector in the country. However, current *in situ* pig production is unable to meet the region's high demand for pigs and pork. In Assam, rural women play a major role in backyard pig production systems. Even though they contribute equally or more to the labour force, they barely have a role in decision-making. Moreover, they are seldom heard or rarely reap the benefits of their hard work. The pork marketing chains in the region are dominated by intermediaries who partake in a major share of the benefits. Against this background, a Piggery Farmer Field School (FFS) was organized to build the capacity of 25 select tribal women from Barmura village, Rangia, Kamrup Rural District in Assam, following the guidelines of the Food and Agriculture Organization (Box 1).



Briefing about piggery FFS

### Box 1: What are Farmer Field Schools?

Farmer Field Schools are a group-based learning approach. The first FFS was developed and implemented by FAO in Indonesia in 1989, enabling small-scale rice farmers to learn and adopt integrated pest management (IPM) practices in small groups. As the approach proved to be very effective, it was quickly applied to other crop production systems in different developing regions, and adapted to other agricultural subsectors, including livestock production (Groeneweg et al., 2006). The FFS approach revolves around people. It brings together groups of producers and engages their members in a process of hands-on, participatory learning. Groups meet regularly throughout the production cycle to test, validate, and adapt new practices to their local conditions. FFS groups develop solutions by comparing local practices with new ideas through trials, observation, critical analysis and discussion. Farmer Field Schools contribute to community development by building skills, trust, competencies and informed decision-making, as well as by enhancing the ability of small-scale producers to work together.

Source: FAO (2018) and Groeneweg et al., (2006).

## GOOD PRACTICES

Even though the FFS approach is highly popular in the crop and livestock sectors in India, its application in the piggery sector is quite recent. Considering the importance of group learning, it was decided to organize a 'Piggery Farmer Field School' as a pioneer attempt to build the capacity of select tribal women. An organizing committee was formed at ICAR-NRC on Pig with four coordinators. A six-month timeframe was fixed for the Piggery FFS, from January to June 2022, following the FAO guidelines for organizing FFS for small-scale livestock producers.

### Identification of village and beneficiaries

Barmura village in Rangia Block, Kamrup Rural District, Assam was selected purposively taking into account criteria like the predominance of tribals in it, the active participation of women in self-help groups (SHGs) and the active participation of women in backyard pig farming. It was ensured that no capacity development programme on piggery had been organized before in the village by any other institution.



Inauguration of piggery FFS



A focus group discussion (FGD) was organized on 30 December 2021 with SHG members involved in pig farming. The program coordinator briefed the participants about the FFS programme, its objectives and the need for active involvement and group cohesiveness. The problems and opportunities in pig farming were discussed with the participants. Later a one-page questionnaire in Assamese, the local language, was given to the participants, with questions pertaining to age, education, experience in piggery, interest in training, etc. Based on the information collected, 25 tribal women were selected from the village for the FFS programme. The women were members of four different SHGs in the village. So a new group of 25 select tribal women who are interested in pig farming and ready to attend a long-duration programme was formed. The group selected two leaders among them to organize the FFS meetings.

### Planning and conducting the FFS meetings

Based on the information collected through the FGD, the training needs of the participants were identified and a six-month schedule of FFS meetings was drawn up covering all the important lecture topics, and master trainers were identified to deliver them. The two Senior Research Fellows (SRFs) under the NASF project acted as facilitators in organizing the programme. All the meetings were held in the village, with the experts visiting the village. The meetings led by the selected leaders began with a discussion on piggery farming among the participants.



**Lecture on breeding strategies for profitable pig farming / Lecture on Importance of scientific pig farming**

The activities conducted included as agro-ecosystem analysis, comparative experiments, and group dynamics. Every meeting started with a recap of the previous one. Participants' feedback was sought on what they wished to learn, objective of the day's meeting, and their current knowledge on the topic. Group activities, demonstrations, an exposure visit to ICAR-NRC on Pig were also undertaken as part of the programme. At the end of each meeting, their feedback was sought on what they had learned and whether they would be able to implement what they had learned (See Box 2 for the topics covered).

#### **Box 2: Lecture topics covered in the Piggery FFS**

- Scientific management of pig farms
- Breeding strategies for profitable pig farming
- Introducing ongoing state department schemes in piggery and how to obtain insurance for pigs
- Management of swine breeding herd and traceability in pork production
- Measures to control inbreeding depression in pig production systems
- Use of Artificial Insemination (AI)
- Balancing diets of different categories of pigs and silage making with vegetable waste
- Biosecurity measures in scientific pig production

- Housing and farm management for better pig production
- Importance of scientific pig farming for nutritional security and livelihood
- Management of pigs during extreme climatic conditions
- Pregnancy detection, estrous synchronization and management of reproductive problems in gilts/sows
- Common infectious diseases of pigs and their management
- Parasitic diseases in pigs and their management
- Pig health management and vaccination schedule
- Rationale of antibiotic use in piggyery and its impact on human health
- Current perspectives in vaccines and diagnostics for swine diseases
- Basic principles of hygienic slaughter and preparation of value added pork products
- Impact of heat stress on pig production and health
- Digital platforms to promote pork marketing chains
- Experience sharing in pork processing by successful women entrepreneurs
- Credit assistance for pig rearing and importance of financial literacy
- Farm management and record keeping
- E-resources for pig rearing

### Agro-ecosystem analysis

As part of the FFS meetings, an agro-ecosystem analysis was undertaken to know more about the resources available in the village. The FFS participants were divided into four groups and asked to list the resources each group had with regard to piggyery. After the group discussion, a representative of each group presented the points of discussion on the existing resources and their use. The findings were then analyzed to understand where improvements could be made.



Presentation by the participants during Agro ecosystem analysis

### Demonstrations

Two frontline demonstrations were made in the village by the scientists of ICAR-NRC on Pig. The first one was on silage making with vegetable waste and tapioca tubers and the second one on artificial insemination in pigs using a dummy. The active participation of all the participants was ensured and they were given a chance to practice using the technology. Guidelines regarding the use of technologies were shared with them. Both the demonstrated technologies can be used by the farmers



to generate additional income. Using silage from vegetable waste can considerably reduce the cost of feeding.



**Demonstration on Artificial Insemination in pig and silage making with vegetable waste**

### **Comparative experiments**

Comparative experiments were conducted as a part of the FFS. Free inputs like mineral mixture packets and deworming tablets were given to all the participants to conduct comparative experiments in the field. They were instructed on how to feed both to their pigs and asked to observe changes in the growth rate of the animals in comparison with their previous experiences.



**Demonstration of pork pickle preparation during exposure visit**

### Exposure visit

An exposure visit was organized for all the 25 participants to ICAR-NRC on Pig, Rani, on 23 March 2022. The farmers were taken to the slaughter house and R&D pork processing plant of the institute. The institute staff demonstrated the different equipment used in the slaughter house and their use. The scientists spoke about the different pork products and the need for quality maintenance during the production process. Later, hands on training was given to the women farmers on how to make pork sausages and pork pickle. This was followed by an interaction with the Director of ICAR-NRC on Pig. Feedback was sought on the FFS programme from the participants. This feedback was used as concurrent evaluation of the FFS programme in its mid-way.



Interaction with Director, ICAR- NRC on Pig during Exposure visit

### Use of multimedia and distribution of literature in local language

The participants were shown a film in the local language (Assamese) on scientific interventions for upscaling rural piggery. The supporting technical bulletin in the local language was shared with them.

### Creation of linkages for entrepreneurship development

As part of the FFS programme, some linkages were established for the participants. A successful women entrepreneur involved in the pork processing industry was invited to interact with the participants. She motivated them to start their own pork processing business and also promised them initial marketing support.

A veterinarian from the state animal husbandry and veterinary department was invited to interact with the participants. He briefed them about the ongoing schemes and the support provided by the state department.

All the scientific staff of the institute interacted with the participants during the FFS meetings. The officer in charge of the Agri-Business Incubation centre described the procedure to obtain incubation support from the institute. Support for starting a business was ensured by ICAR-NRC on Pig.



## CHALLENGES FACED DURING IMPLEMENTATION

The following challenges were faced during the implementation of the FFS:

- The restrictions imposed during the COVID-19 pandemic posed a problem at the beginning of the programme.
- The severe flood in Assam also affected Barmura village in the month of June. The high water levels in the village led to the postponement of some meetings.
- The outbreak of African swine fever in Assam made it highly challenging for women farmers to expand their pig farms. As this deadly disease doesn't have a vaccine and treatment, it led to the spread of fear among the participants.



Valedictory function of piggery FFS/Piggery FFS participants with certificates

## OUTCOMES

### Improved knowledge on scientific pig production practices

The knowledge of the FFS participants was ascertained at the start and end of the programme using a test. A significant increase in their knowledge level was observed following the Piggery FFS programme.

### Integrated pig-fish farming started for waste management

The women were encouraged to integrate pig farming with fish farming as one of the participants had a large pond. Collectively, they constructed a pig shed on the banks of the pond and started using pig manure as fish feed. This helped in waste management.

### Entrepreneurship development

The FFS participants were also encouraged to start a small pork processing unit. They decided to produce pork pickle and smoked pork, for which they have pooled in money to start the unit. However, flood and finding premises to house the processing unit caused delays. The venture is at the planning phase now.

### Empowerment of tribal women

The FFS programme empowered the tribal women participants by providing greater exposure and knowledge. All of them were farmers who were involved in backyard piggery and rice farming. The capacity development exercise that exposed them to scientific knowhow on pig farming created an entrepreneurial mindset. This enabled them to practice pig farming more effectively to gain profits. At the same time, the participants gained more self confidence and started to take their own decisions in the family.

## LESSONS LEARNED AND WAY FORWARD

- A group-based learning approach like Piggery FFS is very effective among rural women's groups. The comfort level experienced in being among their neighbourhood group and their more or less similar backgrounds led to more relaxed and effective learning sessions.
- The regular field visits by the team of scientists to deliver lectures helped them gain the trust of the participants and build a rapport with them. The farmers were pleased to have experts at their doorstep, boosting their confidence and motivating them to do better.
- Compared to the normal inhouse training programmes, the scientists had a better opportunity to know the pulse of the farmers and their village. This enables a better understanding of the field situation, and is ideal for effective need-based training.
- Such long-duration training programmes have a greater impact on the farmers as they get more time to learn, compared to 3-5-days trainings wherein scientific practices are encapsulated to enable easy learning among less educated farmers.
- The 12 meetings organized as part of this FFS in the presence of experts gave enough opportunities for the farmers to clear their doubts at the different stages of the pig production cycle. The repetitive discussions on some scientific topics helped them become thorough about the concepts.
- The 'seeing is believing' nature of the demonstrations provided the participants more knowledge about the technologies. The hands on experience sessions gave them a chance for 'learning by doing.'
- The exposure visit to a national institute like ICAR-NRC on Pig was highly educative. The hands-on training in pork processing gave the participants the confidence to start their own business.
- The group discussions and the cultural activities to strengthen group dynamics ensured greater participation by the tribal women. Such ice-breaking sessions should be included in trainings for better results.
- The selection of two leaders among the participants encouraged leadership qualities among the tribal women. They volunteered to arrange the meetings on time, inform all the participants and actively arranged the discussions and communication with the external facilitators.
- The role of facilitators with knowledge of the local language was important for the successful implementation of the FFS, and enabled them to provide clarifications sought by the farmers.



**Cultural activity by FFS participants for ensuring group dynamics**



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