



## **Glimpses of training programmes undertaken for Pig farmer beneficiaries in under Biotech-KISAN project**

Biotech-KISAN (Krishi Innovation Science Application Network)-A network Project sponsored by Department of Biotechnology (DBT), Ministry of Science and Technology, Govt. of India is working for the livelihood improvements of farmers of North Eastern region through development of piggery with main hub at ICAR Research Complex for NEH Region, Umiam, Meghalaya and partner Institutes/ Centres-ICAR NRC on Pig Rani, Guwahati; ICAR-KVK, RiBhoi, Umiam, Meghalaya; ICAR Research Complex for NEH Region, Mizoram Centre; ICAR Research Complex for NEH Region, Tripura Centre; ICAR Research Complex for NEH Region, Sikkim Centre; ICAR-KVK, Hailakandi, Assam; ICAR-KVK, Namsai Arunachal Pradesh; ICAR-KVK,Chandel, Manipur and ICAR-KVK, Kiphire, Nagaland. Most of the people of North Eastern region of India prefer to consume pork but there is always there is a lack of supply making a gap between demand and supply of pig/pork/pork products in North Eastern states. Keeping in view to meet this gap by production of piglets as well as to promote entrepreneurship in piggery, processing, value- addition, branding and marketing of Piggery Products, DBT has sanctioned a project entitled “Expansion of Activities of Biotech-KISAN Hub in selected seven Aspirational Districts of North East States” (Sanctioned order No. BT/KIS/123/SP36497/2019 dated 12.12.2019). These aspirational Districts are Namsai (Arunachal Pradesh), Hailakandi (Assam), Kiphire (Nagaland), Mamit (Mizoram), Dhalai (Tripura), West Sikkim (Sikkim), and Chandel (Manipur). Project work is going on in four villages in each aspirational district on cluster basis (two villages in each cluster). The project was already successfully running in Ri Bhoi district of Meghalaya and the same model was implemented to other NE states through ICAR RC NEH Umiam with Dr R Laha as Hub-facilitator along with the other scientist of ICAR Umiam. For the success of the project, it needs to organize training programmes for beneficiaries under these project in Biotech-KISAN adopted villages to make the farmers aware about the objectives of the project and related to scientific pig husbandry. It was very difficult for each seven Partner institutes/Centre to organize such type of training in COVID-19 situation as well as the simultaneous outbreaks of African Swine Fever (ASF) in few NE states leading to restrictions of movement of people because of COVID-19 situation and restriction of pig movement because of ASF. Still, each and every centers tried their best efforts by organizing trainings in respective villages about scientific rearing of pigs following COVID-19 and ASF protocols. The glimpses of all these training programmes under this project are documented as herewith.

**1. Training Programmes organized by ICAR-KVK Kiphire, Nagaland on ‘Scientific Pig Husbandry’ under Biotech-KISAN Project sponsored by DBT at Sangphure and Sangtsozi villages.**



**Training programme at Sangtsozi village, Kiphire, Nagaland**

One day training programme on ‘Scientific Pig Husbandry’ was organized by KVK, Kiphire, Nagaland on 23/9/2020 at Sangphure village, Kiphire under DBT funded Biotech-KISAN Hub project entitled ‘Expansion of Activities of Biotech-KISAN Hub in selected seven Aspirational Districts of North East States (Sanctioned order No. BT/KIS/123/SP36497/2019 dated 12.12.2019)’. Speaking on the occasion, Dr. N.Khumdemo Ezung, (i/c) Senior Scientist and Head, KVK, Kiphire and Principal Investigator of the project, highlighted on the aims and objectives of the project where it was informed that the beneficiaries has to target to produce quality piglets so that the improved breed can be further popularized among the farming community. Shri. Benjungtoshi, Chief Veterinary Office, Kiphire attended the programme as the resource person and deliberated in detail about the site selection and specifications required for construction of pig shed such as site should get continuous sunshine, can ensure proper drainage. He stated that in piggery, 80% of the investment goes into purchase of feeds and as such encouraged them to adopt use of locally available resources so as to reduce the cost of rearing and increase income. Other important aspects such as dry feeding, feed mixture, supplementation of vitamins and minerals etc. were also discussed. After the technical session, interaction with the farmers was conducted where the farmers raised queries related to the project and diseases which were satisfactorily answered. The programme was chaired by Chairman, Village Council, Sangphure. During the programme 30 piglets were distributed to 15 beneficiaries of Sangphure village along with 15 packets of 1 kg vitamin and mineral mixtures. Altogether 40 farmers both from Sangphure and Sangtozi participated in the programme.

Another training programme on ‘Disease management in piggery’ was organized by KVK, Kiphire, Nagaland on 26/11/2020 at Sangtsozi village, Kiphire with Dr. Ezao Ezung, BDO of Longmatra block as the special guest. Speaking on the occasion, Dr. N.Khumdemo Ezung, (i/c) Senior Scientist and Head, KVK, Kiphire highlighted the importance of improved varieties of pigs, healthy piglets and encouraged the beneficiaries to take up the initiative sincerely since livestock particularly piggery is an important livelihood of the farmers. Ms. Atsope Sangtam deliberated on the disease management in piggery where she informed about the importance of timely vaccination to protect against the major diseases. Different diseases affecting pigs and its symptoms and care were also thoroughly discussed where the farmers actively interacted with the resource person. She also laid emphasis on ensuring proper construction of house and

drainage system where the waste from the shed can be safely be collected in a pit which can be made into useful compost. She emphasized the use for locally available feed for pigs. Other important aspects such as dry feeding, feed mixture, supplementation of vitamins and minerals etc. were also discussed. After the technical session, interaction with the farmers was conducted where the farmers raised queries relating to the project and diseases which were satisfactorily answered. Short speck was also delivered by CDPO, Social Welfare Department, Kiphire. The programme was chaired by Chairman, Village Council, Sangtsozi. During the programme 30 piglets were distributed to 15 beneficiaries of Sangtsozi village. Altogether 79 farmers participated in both the programme.



**Distribution of piglets and mineral mixture at Sanphure village during the training programme**

**Contributors: N. Khumdemo Ezung, D. J. Rajkhowa, Avituo and David Yim**

## **2.Training Programmes organized by ICAR-KVK Namsai, Arunachal Pradesh on ‘Scientific ways of Pig Husbandry’ under Biotech-KISAN Project sponsored by DBT.**

A series of Training programmes were conducted by KVK, Namsai on various topic of Pig Husbandry at different selected villages of Namsai district under the project banner. The programme covered 2 training in each of 4 selected villages of Namsai district under the project with the topic of “Housing and feeding management of Pigs” and “Disease management of Piggery” respectively. The trainings were imparted on 28.07.20 & 10.10.20 at Podumoni village, on 29.07.20 & 30.07.20 at Mohaloni village, on 03.08.20 & 18.09.20 at Jona-4 village and on 04.08.20 & 19.09.20 at Jona-3 village respectively.

In his inaugural Speech, Dr. D. Sasmal, (i/c) Senior Scientist and Head, KVK, Namsai and Principal Investigator of the project, highlighted on the aims and objectives of the project and explained the role & responsibilities of the KVK Scientists as well as the farmers during implementation of the project for its highest success. He further emphasis to produce quality pig through scientific intervention in all aspects of piggery management to ensure quality pork for human consumption.

In the technical Session, Dr. B.K.D. Borah, SMS, Animal Science and Co-PI of the project explained in details about scientific pig husbandry specially “Housing and feeding management of Pigs” and “Disease management in piggery”. Speaking on the importance of pig

housing, he urged all the beneficiaries to make scientific way of housing so that the piglets will grow to its fullest with minimal encounter of diseases. Housing not only gives the shelter to the animals but also plays an important role in safety from predators, prevent sudden expose to extreme climatic changes and also play a role in biologic control of various seasonal diseases frequently occurring at Namsai district. He also includes all aspect of pig housing management starting from site selection to different types of pig housing system with locally available materials in scientific way. Pig feeding is another important aspect for profitable pig farming. He emphasized to feed the animals with quality balance feed with incorporation of vitamins and minerals for optimum growth. He urged all the farmers to grow maize crop as it is the major ingredient of all concentrated feed. He further explained how to prepare balance concentrated ration for pig with locally available feed ingredients and asked to adopt such practice to reduce feed cost as 75-80% of total cost of production in pig husbandry comes from feed cost. During the programme Dr. M. S. Bora, SMS, Plant Protection spook about the package and practice of maize and soyabean cultivation which are the two major ingredients of pig feed.

Speaking in training conducted at different villages on Disease management of piggery, Dr. Borah highlights all the seasonal diseases of bacterial, viral or parasitic origin prevalent at Namsai district of Arunachal Pradesh. He gave more emphases on prevention and control of infectious diseases with routine vaccination and hygiene and sanitation measures. He asked all farmers to follow LAV theory i.e. Liver tonic, Anthelmintic and followed by Vaccination to boost health and immunity of the animals. He further urged to control parasitic infestation with proper deworming of their animals at three months intervals as both external and internal parasites are largely exist at Namsai due to high humidity and environmental temperature.

A total of 120 farmers were participated during the training programme organized at different villages with 78 male (16, 24, 20 and 18 from Podumoni, Mohaloni, Jona-4 and Jona-3 respectively) and 42 female (14, 06, 10 and 12 from Podumoni, Mohaloni, Jona-4 and Jona-3 respectively). Apart from the farmers, all the village heads, Gaon buras, Ex-ASM, state veterinary field stuffs, ATMA stuffs were also participated in the trainings. Another training programme was also organized by KVK, Namsai under the project at its own premises on 02.12.20. During the programme KVK, Scientist talk on “Hygienic Pig Production” and the factors associated with that. Apart from the theoretic aspect the farmers were also demonstrated various methods of medication and vaccination of their animals.

Along with the training programme a total of 175 quality piglets, anthelmintics, minerals and vitamins were also distributed to the participating beneficiaries.





**Training Programme at Different Villages and at KVK office premises**



**Distribution of Piglets, Pig feed and Veterinary medicines to farmers**

**Vaccination against Swine Fever**

**Contributors: B.K. Duttaborah and D. Sasmal**

**3.Training Programmes on ‘Awareness and Scientific Pig Farming’ organized by Mizoram Centre of ICAR Research Complex for NEH Region in villages of Aspirational District Mamit, Mizoram under Biotech-KISAN Project sponsored by DBT**

A total of five numbers of training programmes were organized at selected villages as mentioned below in Aspirational District Mamit, Mizoram to make aware about scientific pig farming for improvement of livelihood of farmers among beneficiaries of four villages under Biotech-KISAN Hub project. A total of 45 numbers of beneficiaries attended these training programmes. These trainings covered the topics of Breed and Breeding of pigs, Housing, Feeding and Nutrition of pigs; Biosecurity, Health Care and Diseases of pigs; Parasitic diseases of pigs etc.

Sl. No.	Date	Village	No. of Beneficiaries
1	17 <sup>th</sup> July, 2020	Darlak	15
2	9 <sup>th</sup> September, 2020	Vawngawngo	15
3	5 <sup>th</sup> November, 2020	Bawngva	15

4	15 <sup>th</sup> December, 2020	Darlak	15
5	20 <sup>th</sup> January, 2020	Bawngva	15



Photo 1: Training at Bawngva village



Photo 2: Training at Darlak village



Photo 3: Training at Vawngawnzso village



Photo 4: Training at Bawngva village

**Contributors: Lalhruaipuii, I.Shakuntala, Vanlalhriatpuia, Joseph Lalringliana**

#### **4.Training Programmes on ‘Scientific Pig Farming’ organized by Tripura Centre of ICAR Research Complex for NEH Region in villages of Aspirational District Dhalai, Tripura under under Biotech-KISAN Project sponsored by DBT**

A total of four numbers of training programmes were organized at selected villages (Deb kanta Chowdhury para & Munda Basti-Cluster-I, Prasana chowdhury para & Sarat chowdhary para-Cluster-II) of Aspirational District Dhalai, Tripura under the project to improve the skills for augmenting pig production during the period. In trainings, total 60 beneficiaries were participated and training was imparted to beneficiaries on the scientific of pig farming like housing management, care and management of piglets, growers & finishers, breeds and breeding management, formulation of balance ration using locally available cheap feed ingredients, disease and health management were covered for enhancing pig production, etc. The emphasis was also given how to reduce piglet mortality by adopting biosecurity and better managerial practices. Along with trainings fruitful discussions were held with the farmers about their

problems at field level and solutions were suggested. All these training programmes educated the farmers a lot for good management of pig farming and will help to increase the income of rural farmers through pig farming.



**Training programmes**

**Contributors: Vinay Singh, B.K. Kandpal, R. S. Godara, Prasanjit Debnath and Banitya Mohan Tripura.**

**5. ICAR-KVK Chandel, Manipur organised various types of training programmes under Biotech-KISAN Project sponsored by DBT.**

One day training programme on scope and advantages of rearing crossbred pigs organized by KVK Chandel, Manipur under Biotech-KISAN Project sponsored by DBT held at Chandonpokpi Village (Cluster I) and training programme on scope and advantages of rearing of crossbred pigs was held on 24<sup>th</sup> November, 2021 at Ziontlang Village (Cluster II). During the training programme, Dr. Asem Ameeta, ACTO (Animal Science) and Co – Principal Investigator of the project spoke on the scope and advantages of rearing crossbred pigs in Chandel district as a source for improving the livelihood of the villager's and piggery as a source livelihood income generation. She talked on the efficient feed conversion ratio of pigs, low cost of production, low investment on pig's production etc. She also mentioned that piggery farming can be started with little amount of money. The training ended with queries from farmer's answered and light refreshment.

Another five days (8<sup>th</sup> to 12 December, 2020) training programme on scientific rearing and management of crossbred pigs was organized on scientific rearing and management of crossbred pigs for enhancing livelihood of the beneficiaries at KVK, Chandel. The training was attended by all 60 beneficiaries from cluster I and II villages. During the training programme, Dr. Ameeta, spoke on various aspects of housing, feeding with special emphasis on locally available pig feed etc to ensure better management for the pigs.

Dr. M. Vikramjit Sharma, YP-II presented on breeding management of pigs, management of piglets and sow/gilt. He informed the beneficiaries on proper management of pigs. He also deliberated on care and management for sow/gilt and at the time farrowing. Dr. Hb. Wangam Anal, YP-II presented on common diseases of pigs with special reference to Classical Swine Fever and African swine fever. He elaborated on vaccination protocol as well for prevention of diseases. After technical session, field demonstration of the piggery farm was conducted and queries related to farming and diseases were answered. The survey of housing model in each adopted villages were checked on the last of the training.

One day training programme on housing and feeding of pigs organized by KVK Chandel, Manipur at Ziontlang Village (Cluster I) on 22.01.2021. Another training programme on housing and feeding of pigs for the beneficiaries of Ziontlang Village (Cluster I) was held on 23<sup>th</sup> January 2021 with the objective to impart knowledge on housing and feeding of pigs for proper management of pigs. The training was held for all 15 beneficiaries of Ziontlang village (Cluster I). Dr. Asem Ameeta spoke on the different housing system and feeding of pigs. She deliberated on making the pig shed from locally available material as the beneficiaries are from poorer section



of the villages. Dr. Sharma, VP-II discussed about shared his thought on the care and management of piglet with special reference to piglet anaemia and piglet scour.

Another two days training programmes were organized by KVK Chandel, Manipur under Biotech-KISAN Project sponsored by DBT held at and Chandonpokpi on 2.2.21 and Mionsang Pantha on 3.2.21. A total of 15 numbers of trainees from Mionsang Pantha and 30 numbers of beneficiaries from Chandonpokpi attended this training programme.

		
<p>Plate I: Training on scope and advantages of piggery farming in Chandonpokpi Village (Cluster I)</p>	<p>Plate IV: Training on housing and feeding of pigs held at Ziontlang Village (Cluster I)</p>	
		
<p>Plate II and III: Training on scientific rearing of crossbred pigs held at KVK, Chandel for all beneficiaries of Cluster I and II villages.</p>		
		
<p>Training organized at Mionsang Pantha and Chandonpokpi</p>		

**Contributors: Aseem Ameeta Devi, Deepak Singh, I. Meghachandra Singh, M. Vikramjit Sharma and Hb Warngam.**

**6. Training Programmes organized by ICAR NEH Region, Sikkim centre on ‘Scientific Pig Husbandry’ under DBT Biotech-KISAN Project in West Sikkim at Soreng, Timburbong, Kaluk and Sribadam.**

The ICAR - National Organic Farming Research Institute, Tadong, organized four nos. of Capacity Building/training programmes under Biotech-KISAN. A total of 60 farmer beneficiaries of four villages attended the training. The Panchayat representatives of respective villages were also present during the programme. The detail of training programmes is given as below:

<b>Date</b>	<b>Place</b>	<b>Lectures Covered</b>
12/11/2020	Soreng and Timburbong, West Sikkim	1. Role of scientific pig rearing in economic upliftment of farmers in Sikkim condition.
27/11/2020	Soreng and Timburbong, West Sikkim	1. Scientific feeding of pigs using low cost locally available feed resources. 2. Health management of pigs for profitable pig farming under Sikkim conditions.
12/01/2021	Kaluk and Sribadam, West Sikkim	1. Role of scientific pig rearing in economic upliftment of farmers in Sikkim condition.
15/01/2021	Soreng and Timburbong, West Sikkim	1. Managerial practices for prevention of major pig diseases in Sikkim conditions. 2. Piggery based Integrated Organic Farming System for improving rural livelihood in Sikkim conditions.

During the training, Dr. Mukesh Bhatt (Scientist, Animal Science Section and PI of the project) briefed about the objectives of the programme. He pointed out the decreasing pig population in the Sikkim and encouraged the farmers to adopt pig farming based on scientific principles in large scale to obtain higher returns. In his speech, he insisted on measures to keep pigs healthy by providing balanced feed, biosecurity, deworming and timely vaccination.

Dr. Prasanta Kumar Pathak, Head (I/c), KVK, Ranipool, East Sikkim delivered his lecture on “Scientific feeding of pigs using locally available feed resources” so as to reduce the feed cost and earn more benefit. He urged the farmers to take this opportunity to learn pig farming in scientific way and adopt pig farming as a full time venture to improve their livelihood.

Dr. Amit Kumar, Scientist (Agronomy) delivered a lecture on “Piggery based Integrated Organic Farming System to improve the rural livelihood in Sikkim”. He emphasized on integrated farming approach for earning better returns especially for the small and marginal farmers.

A total of 53 piglets were distributed to beneficiaries in two villages (Soreng and Timurbong villages) along with feed and mineral mixture till date. The Panchayat representatives of respective villages extended their support for the successful implementation of project in all four villages. Linkage has also been established with the KVK, West Sikkim and the team from KVK, West Sikkim by playing a crucial role in execution of activities under the project in the four villages of West Sikkim. The Joint Director, Dr. R. K. Avasthe expressed his happiness over the implementation of project in West Sikkim as pig farming is a profitable venture and the increasing demand of pork in the state due to regular tourist inflow offers great opportunity for growth in this sector.



**Piglet Distribution in Timurbong Village, West Sikkim under Biotech-KISAN Project**



**Piglet Distribution in Soreng Village, West Sikkim under Biotech-KISAN Project**



**Capacity Building Programme held in Timurbong Village, West Sikkim under Biotech-KISAN Project**



**Capacity Building Programme held in Soreng Village, West Sikkim under Biotech-KISAN Project**



**Capacity Building Programme held in Kaluk and Sribadam Village, West Sikkim under Biotech-KISAN Project**



**Capacity Building Programme held in Kaluk and Sribadam Village, West Sikkim under Biotech-KISAN Project**

**Contributors: Mukesh Bhatt, Amit Kumar, R. K. Avasthe, P.K. Pathak, Tshering Zangmu Bhutia and Bandan Chettri**

**7.Training programs conducted under Biotech-KISAN Project by ICAR-KVK, Hailakandi, Assam sponsored by DBT**

Training cum Awareness program on Piggery Management and pig health managements at Dholcherra F.V and Dholcherra extension and at Zion punjee and Sena punjee villages were organised in aspirational District Hailakandi Assam. A total of nine numbers of such trainings were organised and a total of 60 numbers of beneficiaries attended these training cum awareness programmes.



**Training cum Awareness program on Piggery Management and pig health management at dholcherra F.V and extension on 19.6.20.**



**Training cum Awareness program on Piggery Management and pig health management at dholcherra F.V and extension on 24.6.20.**



Training cum Awareness program on Piggery Management and pig health Management at Dholcherra F.V and Dholcherra extension On 22.7.20.



Awareness program organised at Zion punjee and Sena punjee



Piglets Distribution at Dholcherra Extension



Pig feeds Distribution at Dholcherra F.V and Dholcherra Extension

**Contributors: Bijoy Chettri , Vishal Dey and Sayon Paul.**

### **8. KVK RI-BHOI ORGANISED AWARENESS PROGRAMME AND SENSITIZATION OF MIGRANT WORKER ON PIG HUSBANDRY UNDER Biotech-KISAN Project**

KVK-Ri-Bhoi had successfully completed one day Awareness Programme and Sensitization of migrant worker on pig husbandry under Biotech KISAN on 12<sup>th</sup> November 2020 in the campus of KVK itself by keeping in line with the directive of the government of India in assisting the various migrant worker for migrant workers who returned to their home states during the coronavirus-induced lockdown. The inauguration program was attended by Dr M Mokidul Islam, Principal Scientist & Head KVK Ri Bhoi and Principal Investigator Biotech-

KISAN project, Scientist besides project staff, KVK staff and farmers friend. Dr Islam highlighted about how corona virus has affected the whole nation with factories and workplaces shut down due to the lockdown imposed in the country, millions of migrant workers had to deal with the loss of income, food shortages and uncertainty about their future. Thousands of them then began walking back home, with no means of transport due to the lockdown. In response, the Central and State Governments took various measures to help them. He also inform the august house that Biotech-KISAN Hub along with village authority has listed out the name of those migrant workers and will assist them by providing them with piglets and feed inputs. He extended the overall institute scientific help to the migrant worker so that they can have a sustainable and profitable pig farming.



All these training programmes were constantly guided and monitored by Dr. R. Laha, P.S. & Hub Facilitator alongwith all PIs and Co-PIs of Main Hub (ICAR RC NEHR, Umiam, Meghalaya) for successful implementation of the program. These successful examples of pig farming in these aspirational area will setup examples for other farmers also where they would learn that following the scientific ways of pig husbandry they can fetch good income alongwith production of hygienic pig which would be benefitting them and the region only.

**Facilitators:**

Samir Das, AAP Milton, K. Puro, G. Kadirvel, Sourabh Deori, Meena Das, Sandeep Ghatak, Arnab Sen and R. Laha (Hub Facilitator)

Technical staffs: - Yearbok Marwein, Ibanylla Swer, Macdonald Ropmay and Rishan Mawjaw.

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