



Impact of Biotech KISAN expansion project on entrepreneurship development through cluster based pig farming in seven aspirational districts of North Eastern States



**Division of Animal and Fishery Sciences
ICAR Research Complex for NEH Region, Umiam, Meghalaya – 793103**

Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India under Biotech-KISAN (Krishi Innovation Science Application Network) funded the project entitled ‘Expansion of Biotech-KISAN Hub in selected seven aspirational districts of North East States’ in seven aspirational districts of North Eastern states viz. Namsai (Arunachal Pradesh), Hailakandi (Assam), Chandel (Manipur), Kiphrie (Nagaland), Mamit (Mizoram), Dhalai (Tripura) and West Sikkim (Sikkim) from December’2019. The main objectives of the project were to promote entrepreneurship in piggery in selected aspirational districts of NE region following cluster approach including health coverage, value addition and marketing of piggery products. The main hub of the project is at ICAR Research Complex for NEH Region, Umiam, Meghalaya and implemented in the seven aspirational districts with the help of seven partner institutes as mentioned below:

Main Hub:

- ICAR Research Complex for NEH Region, Umiam, Meghalaya

Partner Institutions:

- ICAR Research Complex for NEH Region, Mizoram Centre
- ICAR Research Complex for NEH Region, Tripura Centre
- ICAR Research Complex for NEH Region, Sikkim Centre
- Krishi Vigyan Kendra, Hailakandi, Assam
- Krishi Vigyan Kendra, Namsai, Arunachal Pradesh
- Krishi Vigyan Kendra, Chandel, Manipur
- Krishi Vigyan Kendra, Kiphire, Nagaland

Name of Aspirational districts covered/ Geo-tagging:

| Table 1: Seven aspirational districts and villages adopted in NE states | | | | | | | |
|---|--|--|---|--|---|---|--|
| State | Nagaland | Tripura | Assam | Mizoram | Arunachal Pradesh | Sikkim | Manipur |
| Aspirational District | Kiphire | Dhalai | Hailakandi | Mamit | Namsai | West Sikkim | Chandel |
| Adopted village | 1. Sangtsoze 2. Sanphure 3. Phelungre 4. Litsaong | 1. Debkantac howdhurypa ra 2. Munda Basti 3. Prasannach owdhurypa 4. Sarat chowdhuryp ara | 1. Sena Punji 2. Zion Punji 3. Dholcherra Extn 4. Dholcherr a F.V. | 1. Vawngawnzo 2. N. Sabual 3. Bawngva 4. Darlak | 1. Podumoni 2. Mahaloni 3. Jona-IV 4. Jona-III | 1. Kaluk 2. Timburbon g 3. Sribadam 4. Soreng | 1. Chandonp okpi 2. Ziontlang 3. Japhou 4. Monsang Pantha |

Details of Geo-tagging

➤ **Chandel, Manipur:**

- Chandonpokpi Village: 24.4095°N Latitude 94.3308°E Longitude
- Monsang Pantha Village: 24.1927°N Longitude 94.0115 ° E
- Japhou Village: Latitude 24.331071 ° N Longitude 94.008074°E

➤ **West Sikkim:**

- Kaluk: 27.2324° N, 88.2521° E
- Sribadam: 27.2033° N, 88.2081° E
- Timburbong: 27.1739° N, 88.1979° E
- Soreng: 27.1694° N, 88.1986° E

➤ **Kiphire, Nagaland:**

- Sanphure: 25.8269°N Lat,94.7574°E Long
- Sangtsoze: 25.7035°N Lat,94.65'28°E Long
- Phelungre: 25.4956°N Lat, 94.4627°E Long
- Lithsaoung: 25.6978°N Lat,94.5816°E Long

➤ **Namsai (Arunachal Pradesh):**

- Podumoni village: Lon 95.7782 °E Lat 27.6537 °N
- Mohaloni village: Lon 95.7990 °E Lat 27.6528 °N
- Jona IV village: Lon 95.8548 °E Lat 27.7558 °N
- Jona III village: Lon 95.8298°E Lat 27.7362°N

➤ **Dhalai (Tripura):**

- Debkanta Chowdhury Para & Munda Basti Katalutma village: Lat 24.07969°N Lon 91.82451 °E
- Prasanna Chowdhury Para & Sarat Chowdhury Para, Abhanga village: Lat 24.05643°N Lon 91.82552°E

➤ **Mamit (Mizoram):**

- Vawngawnzo : 24.041298° N Latitude, 92.507561° E Longitude
- N. Sabual : 23.992517° N Latitude, 92.497338° E Longitude
- Darlak : 23.904222° N Latitude, 92.418474° E Longitude
- Bawngva : 23.912299° N Latitude, 92.426719° E Longitude



Kiphire, Nagaland



Darlak village, Mamit, Mizoram

Technologies disseminated/Interventions:

- ✓ Scientific pig farming
- ✓ Introduction of improved breeds of crossbred piglets
- ✓ Modified low cost pig housing
- ✓ Breeding of Pigs (Artificial Insemination)
- ✓ Health care and disease management, vaccination, deworming
- ✓ Demonstration of Biosecurity measures

National webinar/Training programme organized by Main Hub, ICAR, Umiam:

1. **National Webinar cum e-workshop:** National Webinar cum e-workshop on 'Entrepreneurship development through cluster based pig farming in North East Hill region' organized by ICAR Research Complex for NEH Region, Umiam, Meghalaya on 12th April' 2022 for promoting entrepreneurship in piggery in seven aspirational districts of NEH region viz. Namsai (Arunachal Pradesh), Hailakandi (Assam), Chandel (Manipur), Kiphrie (Nagaland), Mamit (Mizoram), Dhalai (Tripura) and West Sikkim (Sikkim) following cluster approach including health coverage, processing, value addition and marketing of piggery products. Dr. S. K. Das, Principal Scientist and Director (I/C) in his address told to give more emphasis on establishment of pig breeding clusters in villages so that improved breeds of piglets are easily available in the region. He also told that beneficiaries should be trained for processing and value addition of pork and pork products so that they can export their products. Dr. Gaya Prasad, Ex-ADG (AH) ICAR; Ex-Vice Chancellor, SVBPUAT, Meerut, UP told to give more emphasis on good breed, hygiene, nutrition, alternate formulated feed and processing of pork products in the cluster approach. Dr. Mineswar Hazarika, Ex-HOD & Professor, Livestock Products and Technology, College of Veterinary Science, AAU, Khanapara, Assam delivered lecture

on the topic ‘Application of appropriate technology for value addition of pork and pork products to rural entrepreneurs’. Dr. Kandeepan G., Senior Scientist, ICAR-National Research Centre on Meat, Chengicheria, Hyderabad delivered lecture on the topic ‘Hygienic pork production and value addition’. A total of 266 nos. of beneficiaries (Male: 168, Female: 98) from seven aspirational districts viz. Namsai (65), Hailakandi (51), Chandel (45), Kiphrie (19), Mamit (21), Dhalai (44) and West Sikkim (21) participated in the programme.



ICAR RC NEH Region, Umiam, Meghalaya



KVK, Namsai, Arunachal Pradesh



ICAR RC NEH Region, Tripura centre



KVK, Hailakandi, Assam



KVK, Chandel, Manipur



KVK, Kiphrie, Nagaland

- 2. Training programme on ‘Meat processing and value addition of pork and pork products’:** Seven days hands on training programme on ‘Meat processing and value addition of pork and pork products’ was organized for the beneficiaries (14nos.) from

seven aspirational districts viz. Namsai (Arunachal Pradesh), Hailakandi (Assam), Chandel (Manipur), Kiphrie (Nagaland), Mamit (Mizoram), Ri Bhoi (Meghalaya) and West Sikkim (Sikkim) w.e.f. 1st -7th August'2022. Two (2nos.) beneficiaries from each aspirational district (14nos.) participated in the programme. During the training period they have prepared classic sausage, emulsion sausage, traditional sausage, classic salami, emulsion salami, classic meat balls, emulsion meat balls, classic nuggets, bacon, smoked pork, pork pickle and ham.



Trainees from seven aspirational districts of North East



Pork and pork products prepared by trainees

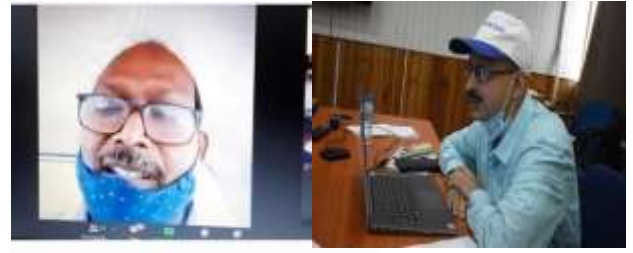
- 3. Training programme:** Training programme on 'Scientific pig farming with special reference to African swine Fever' (online mode) w.e.f. 26.4.21 to 29.4.21 as a part of celebration of *Azadi Ka Amrit Mahotsav*. The inaugural session was graced by Dr. V.K. Mishra, Director, ICAR Research Complex for NEH Region, Umiam, Meghalaya, Dr. A.K. Tripathi, Director, ICAR-ATARI, Guwahati, Assam as Chief guest, Dr. M. S. Kundu, Director of Extension Education, Dr. Rajendra Prasad Central Agricultural University, Pusa, Bihar as guest of Honour, Dr. R. Laha, Principal Scientist and Hub

Facilitator, PIs, Co-PIs, JRFs, YP-IIIs, Project Assistant, *Mahila Biotech Kisan Fellows*, Headmen of villages and farmer beneficiaries.



Dr. V.K. Mishra
Director, ICAR RC
NEHR, Umiam,
Meghalaya

Dr. A.K. Tripathi
Director, ATARI, Guwahati,
Assam



Dr. M.S. Kundu,
Director of Extension
Education, Dr.
RPCAU, Pusa,
Samastipur, Bihar

Dr. R. Laha, Principal
Scientist and Hub
Facilitator, Main Hub-
ICAR RC NEHR,
Umiam, Meghalaya



Dr. K. Puro, Senior Scientist,
DAFS, ICAR RC NEHR
Umiam, Meghalaya-Expert on
ASF



Dr. S. Deori, Senior
Scientist, DAFS, ICAR RC
NEH R Umiam, Meghalaya-
Expert on A.I.



Dr. G. Kadirvel, P.S.,
DAFS, ICAR RC
NEHR Umiam,
Meghalaya



Dr. Shyamal Naskar,
Principal Scientist,
ICAR-IVRI, Eastern
Region Station,
Kolkata

4. Training programme: Training programme on 'Establishment of entrepreneurship and marketing of piglets and pork products' was organized by ICAR RC NEHR, Umiam, Meghalaya through virtual mode to commemorate the 75th years of Indian Independence/Azadi Ka Amrit Mahotsav w.e.f. 24th to 25th June' 2021. The inaugural session was graced by Dr. Mahesh Chander, Head, Extension Education Division, Indian Veterinary Research Institute (IVRI), Ex-Joint Director (I/C), IVRI, Bareilly as Chief guest. This training was attended by the farmers through online mode individually or in a group consisting of 5-9 members. A total of eight numbers of lectures were given through power point presentations in virtual mode in this two days event, in addition to valuable addresses of the different dignitaries during inaugural session, which were very much valuable for the pig farmers for improvement of their livelihood and to build Atma Nirvar Bharat.



Dr. Mahesh Chander, Head,
Extension Education Division,
IVRI, Bareilly, Izatnagar



Dr. Atul Borgohain, Associate
Director of Extension Education,
Assam Agricultural University,
Khanapara, Guwahati



Dr. K.K. Baruah, Head,
Division of Animal and Fishery
Sciences (DAFS), ICAR RC
NEHR, Umiam, Meghalaya



Dr. R. Laha, Principal Scientist
and Hub Facilitator, Main Hub-
ICAR RC NEHR, Umiam,
Meghalaya



ICAR-KVK, Chandel, Manipur



Participants attended Virtual
mode of training

Beneficiaries, Technologies disseminated/ Interventions, Impact (2020-2022)

| Table 1: Number of beneficiaries covered (2020-2022) | | | | | | | | | | | | | | | | |
|---|-----------|-----------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|-----------|-----------|------------|------------|
| Aspirational District | Kiphire | | Dhalai | | Hailakandi | | Mamit | | Namsai | | West Sikkim | | Chandel | | Total | |
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| i). No. of Beneficiaries | 50 | 10 | 54 | 66 | 87 | 33 | 37 | 23 | 36 | 21 | 38 | 23 | 21 | 39 | 323 | 215 |
| ii). SC/ST | 50 | 10 | 54 | 66 | 87 | 33 | 37 | 23 | 20 | 10 | 38 | 23 | 21 | 39 | 307 | 204 |
| iii). Migrants (Indirect beneficiaries) | - | - | - | - | - | - | - | - | 3 | - | - | - | - | - | 3 | - |
| Total beneficiaries (i + iii) | 50 | 10 | 54 | 66 | 87 | 33 | 37 | 23 | 39 | 21 | 38 | 23 | 21 | 39 | 326 | 215 |
| | 60 | | 120 | | 120 | | 60 | | 60 | | 61 | | 60 | | 541 | |
| <i>* Male: M **Female: F</i> | | | | | | | | | | | | | | | | |

| Table 2: Activity-wise number of beneficiaries covered (2020-2022) | | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------------|
| Activity | Kiphire | Dhalai | Hailakandi | Mamit | Namsai | West Sikkim | Chandel | Total |
| Training organized (nos.) | 60 (13) | 120 (7) | 120 (13) | 60 (11) | 60 (12) | 61 (7) | 60 (17) | 541 (80) |
| Piglets distributed (nos.) | 60 (135) | 76 (155) | 65 (130) | 60 (120) | 60 (233) | 61 (172) | 60 (180) | 441 (1125) |
| Pig feed distributed (kg) | 45 (2250) | 76 (3900) | 60 (3000) | 60 (3000) | 60 (2250) | 61 (2450) | 60 (3100) | 421 (19950) |
| Vaccination programme (CSF) (no. of pigs) | 2 (20) | 3 (155) | 2 (150) | 4 (120) | 18 (233) | 1 (112) | 2 (180) | 32 (970) |
| Deworming program (no. of pigs) | 2 (135) | 3 (155) | 1 (150) | 8 (120) | 24 (233) | 2 (172) | 3 (180) | 43 |
| Sanitization program to prevent African Swine Fever (ASF) (no. of beneficiaries) | 3 (45) | - | 1 (60) | 4 (60) | 3 (60) | - | - | 11 (225) |
| Faecal sample examination/ Health monitoring (no. of pigs) | - | 2 (21) | - | 8 (120) | - | - | - | 10 (141) |

Table 3: Technologies disseminated/Interventions made under the project (2020-2022)

| Sl. No. | Name of the interventions/ technology transferred | Number of Beneficiaries | Level of adoption | | | | Change in income | |
|---------|---|-------------------------|-------------------|--------------------------|--------------|----------|-------------------------------|--------------------------------|
| | | | Fully adopted | In process of adoption | Discontinued | Rejected | Before | After |
| 1. | Introduction of improved breeds of crossbred piglets | 540 | 540 (100%) | 120 (2 nd yr) | - | - | Rs. 5000.00 per pig (Approx.) | Rs. 35000.00 per pig (Approx.) |
| 2. | Modified low cost pig housing | 540 | 540 (100%) | | - | - | | |
| 3. | Scientific pig farming | 540 | 540 (100%) | | - | - | | |
| 4. | Breeding of Pigs (Artificial Insemination) | 540 | - | Trained | - | - | | |
| 4. | Health care and disease management, vaccination, deworming. | 540 | 540 (100%) | | - | - | | |
| 5. | Demonstration of Biosecurity measures | 540 | 540 (100%) | | - | - | | |

Table 4: Technology demonstrated and performance

| SI No. | Name of the intervention/technology demonstrated | Type of demonstration | No. of farmers covered | No. of demonstrations conducted | No. of demonstrations under process | Performance parameters* yield, body weight (Kg), egg production, kidding, wool production etc as per the species | | Income (In Rs) | | | Farmers feed back |
|--------|--|--|------------------------|---------------------------------|-------------------------------------|---|--|---------------------------|----------------------------|------------|----------------------------------|
| | | | | | | Before Demos. (existing) | After Demos. | Before Demos. | After Demos | % increase | |
| 1. | Mamit (Mizoram) | | | | | | | | | | |
| | Scientific pig farming | Improved pig breeds, feed, health care, vaccination, deworming | 60 | 9 | 4 | Body weight : 55- 60 kg/pig at the time of marketing Litter size : 4 - 5 piglets per weaning | Body weight : 65-100 kg/pig at the time of marketing Litter size : 8-10 piglets per weaning | 5000.00 per pig (Approx.) | 11555.00 per pig (Approx.) | 83 | Satisfied with the intervention. |
| 2. | West Sikkim (Sikkim) | | | | | | | | | | |
| | Scientific pig farming | Improved pig breeds, feed, health care | 61 | 7 | | Adult pig: Body weight 70 kg | Adult pig: Body weight 93 kg Litter size : 10 piglets per weaning. (Max: 13, Min: 6) | 70000.00 | 93000.00 | 64.7 | Satisfactory |
| 3. | Namsai (Arunachal Pradesh) | | | | | | | | | | |
| | Cross-bred Piglets | Pig | 60 | 3 | - | Body weight: 22 kg (Av.), 4.5 months of age | Body weight: 68 kg (Av.), 7 months of age | 20000.00 | 00000.00 | 80 | Satisfactory |
| | Deworming | Healthcare | 60 | 3 | - | Body weight: 22 kg (Av.), 4.5 months of age | Body weight: 68 kg (Av.), 7 months of age | 20000.00 | 100000.00 | 80 | Satisfactory |
| | SF Vaccine | Disease prevention | 60 | 3 | - | Body weight: 22 kg (Av.), 4.5 months of age | Body weight: 68 kg (Av.), 7 months of age | 20000.00 | 100000.00 | 80 | Satisfactory |
| 4. | Hailakandi (Assam) | | | | | | | | | | |

| | | | | | | | | | | | |
|-----------|----------------------------|--|-----|---|---|--|--|----------|----------|--------|------------------|
| | Scientific rearing of pigs | 60 | 60 | - | - | Body weight: 20 kg (Av.), | Body weight: 85 kg (Av.) | 9800.00 | 59000.00 | 502.04 | Highly satisfied |
| 5. | Kiphire (Nagaland) | | | | | | | | | | |
| | Cross-bred Piglets | Pig: Rani breed (Hampshire and Largeblack cross) | 60 | 3 | 1 | Body weight: 20-22 kg (Av.), 4.5 months of age | Body weight: 66 kg (Av.) | 10000.00 | 30000.00 | 75 | Satisfactory |
| 6. | Dhalai (Tripura) | | | | | | | | | | |
| | Scientific pig farming | Pig (Malibreed) | 120 | 6 | - | Body weight: 6.38 (Av.), 3 months of age | Body weight: 48.6 kg (Av.), 12 months of age | 20000.00 | 33000.00 | 65 | |
| | | Pig (Hampshire Cross) | 120 | 6 | - | Body weight: 6.93 kg (Av.), 3 months of age | Body weight: 53.3 kg (Av.), 12 months of age | 15000.00 | 43000.00 | 186 | |

Impact and Success stories:

1. Pig breeding cluster: 5 nos. (Namsai: 4, Mamit: 1)

- Sh. Jintu Mech, Podumoni village, Namsai received 4 nos. of cross bred (Hampshire & Yorkshire) piglets of 1.5 months age. Body weight 92 kg (Av.) at 12months of age. Earned Rs.100000 - 121000/- by selling 23nos. of piglets. He has also undergone 7 days skill training on “Animal Health Worker” and able to perform the basic animal treatments including castration of piglets of his own as well as others and able to earn extra income of around Rs.2500 - 3000/- per month.



- Chow Lachit Thowmong, Jona IV village, Namsai received 4 nos. of cross bred (Hampshire & Yorkshire) piglets of 1.5 months age. Body weight 80kg (Av.) at 12months of age. Earned Rs.104500-117000/- by selling 19nos. of piglets @ Rs.5500/- per piglets at local market and @ Rs. 5000/- per piglets at farm level, respectively.



- Sh. Hemanta Konwar, Mohaloni village, Namsai. Earlier his annual income from livestock farming was Rs.24000/- only. Received 4nos. of cross bred (Hampshire & Yorkshire) piglets of 1.5 months of age. Pigs attained sexual maturity at 8 months and gained average body weight of 80kg at 12 months of age. Earned Rs.102000-106000/- by selling 21 nos. of piglets.



2. Income increased from scientific pig farming

- Sh. Lalramliana Hrangkhoh, 48 years, Dholcherra village, Hailakandi used to earn Rs. 9000.00 only by rearing local pigs. But after DBT-Biotech-KISAN intervention, his income increased up to Rs. 35000.00. Body weights of local and improved breeds of pigs were 40kg and 75kg, respectively.
- Mrs. Lalrinsangi Hrangkhoh, 38 years from Dholcherra village, Hailakandi rear local pigs for fattening and breeding purpose. Scientific interventions increased her income from Rs. 3100.00 to Rs. 59000.00.



- Sh. Paltu Debbarma, Debkanta Chowdhury Para, Dhalai received 2 nos. of piglets, 50kg feed and feed supplements under Biotech-KISAN project. After farrowing of sow got 8nos. of piglets, sold 6 nos. of piglets @ Rs.5000/- per piglet, earning total income Rs. 30000.00.



- Sh. Birbal Limboo, 36 years, an unemployed youth from Soreng village, West Sikkim received 04 piglets under the project. From two farrowings, he got 23 nos. of piglets. Out of 23, 14 nos. of piglets were sold @ of Rs. 5000.00 per piglet after weaning earning a total income of Rs. 137500.00 with net profit of Rs. 102061.00 (B:C ratio 2.88).



- Mrs. Kamal Maya Subba (57 years), a women farmer under the project hailing from Timurbong, West Sikkim, received 04 piglets (three females and one male piglet) and 50 kg of feed under the project. After farrowing of sow, she got 9 nos of piglet and no mortality was observed. She sold all piglets @ Rs 4500/- for female and @ Rs.5000/- for male per piglets, respectively earning total income of Rs. Rs. 42,000/-.



- Sh. Aita Bdr. Subba (47 years), a young promising farmer from Timurbong village, West Sikkim received 04 piglets (three females and one male piglet) and 50 kg of feed under the project. After farrowing of sow, he got 10 nos. of piglet and benefitted with the interventions under the project the mortality rate could be reduced to zero. He sold all the piglets @ Rs.5000/- for male per piglets, earning a total income of Rs. Rs. 50,000/- with a B:C ratio of 1.93.



- Kiang Bojes Chothe, 31 years is an unemployed youth from Chandonpokpi village, Chandel district, Manipur. Pig which he had received through this project had given birth to 6 nos. of piglets. Few piglets sold at the rate of Rs. 6000 per piglet after weaning and few kept for fattening. The estimated income which can be generated through fattening of pig @ of Rs. 300 per kg for a pig weighing 70 kg is Rs. 21,000 /- (approx.).



- Sh. Lalchhanchhuaha, an unemployed (56 years) from N. Sabual village, Mamit district, Mizoram. Before intervention of ICAR RC NEH Region, Kolasib, he used to rear local pigs for fattening purpose. He received 2 nos. of piglets (1 male, 1 female) of crossbred piglets in February, 2021 for breeding purposes from ICAR RC NEH, Mizoram. He got 17nos. of piglets, sold @ Rs. 7000.00 per piglet, with total income of Rs.1,19,000.00 produced good quality piglets with low financial input, B:C ratio 2.15.



- Sh. Hmangaihsanga, a farmer beneficiary from Vawngawnzo village, Mamit district, Mizoram received 2nos. of piglets under the project. He produced 8 piglets, which he sold for Rs. 7,000 per piglet, with total income of Rs. 56,000.00 per farrowing with B:C ratio 2.14 per farrowing.



- Sh. Lalramhluna, Vawngawnzo village, Mamit district, Mizoram prepared pig feed with locally available materials to reduce feed cost. Since, they cannot afford to buy concentrate feed all the time, they add 30-50% of cooked locally available fodders to the concentrate ration without much difference in the production potential of the pigs fedfeed, which ultimately reduced the feeding cost.



3. Recognition: KVK Kiphire, Nagaland received an appreciation letter from Shri. Yangseo Sangtam Hon'le MLA and Chairman District Planning and Development Board Kiphire Nagaland for the team effort of KVK Kiphire in Agriculture and allied sectors with a special mention about Biotech KISAN project.



T. YANGSEO SANGTAM
MLA
Chairman DPDB Kiphire

D.O No. KVK/01/2020-2021

Date. 20/01/2022

Letter of Appreciation

This letter of appreciation is in recognition of the effort put forth by Krishi Vigyan Kendra, Kiphire, ICAR for NEH region, Nagaland centre headed by Dr. N. Khumdemo Ezung, Senior Scientist and Head where the centre has extended help in Agriculture and allied sectors to the farming community of Kiphire District. I am aware as Chairman (DPDB) of the District Planning and Development Board about the activities undertaken by the KVK more particularly in the field of livestock where farmers have reaped a huge benefit. The effort put in by the KVK in developing integrated Farming System is worth commenting where I personally visited the farm and I would like to further urge the KVK to develop such farming system as well. Piggery is an important sector of the farming community and the effort of the KVK to introduce improved breeds of pig through Biotech KISAN Hub project incorporating pig breeding is observed to have a long lasting impact on the economy of the livestock farmers. I was immensely delighted to inaugurate the feed making unit which the KVK has implemented under CM corpus fund and I am made aware that the unit has benefited not only the beneficiary but more importantly the maize growers and the pig farmers.

It is my sincere appeal to the KVK to continue serving the farming community of the district and it is my commitment to extent my help wherever needed.


(T. YANGSEO SANGTAM)

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Table 5: Impact of DBT Biotech-KISAN Intervention on income of few beneficiaries in Namsai, Arunachal Pradesh

| Cluster | Village | Beneficiary name | Income before DBT Biotech-KISAN Intervention (Rs.) | Intervention Income after DBT Biotech-KISAN | | | | | | | |
|---------|----------|--------------------------|--|---|---------------------|------------------------------|---|--------------------|--------------------------|------------------|-----------|
| | | | | Piglets received from DBT | No. of piglets born | No. of piglet/pig sold (Rs.) | Rate per piglet/adult pig (Rs.) | Total Income (Rs.) | Cost of production (Rs.) | Net profit (Rs.) | B:C ratio |
| I | Podumoni | Sh. Podunyo Sargari | 20000 | 04 | 19 | 67500 | Piglets(avg.)-5500 Adult pig(avg.)-15750 | 72000 | 42800 | 29200 | 1.68 |
| II | Podumoni | Mrs. Tarulata Mech | 10000 | 04 | 21 | 63000 | Piglets(avg.)-5500 Adult pig(avg.)-20000 | 83000 | 42500 | 40500 | 1.95 |
| I | JONA-III | Sh. Monu Gogoi | 40000 | 04 | 21 | 90000 | Piglets(avg.)-5500 Adult pig(avg.)-15000 | 105000 | 45000 | 60000 | 2.3 |
| III | JONA-IV | Sh. Alisengmoung Wailong | 18000 | 04 | 16 | 88000 | Piglets(avg.)-5500 Adult pig(avg.)-20000 | 108000 | 40000 | 86000 | 2.7 |

Table 6: Impact of DBT Biotech-KISAN Intervention on income of few beneficiaries in Dhalai (Tripura)

| Cluster | Village | Beneficiary name | Income before DBT Biotech-KISAN Intervention (Rs.) | Income after DBT Biotech-KISAN Intervention | | | | | | | |
|---------|-------------------------|-----------------------|--|---|---------------------|---------------------------------------|---|--------------------|--------------------------|------------------|-----------|
| | | | | Piglets received from DBT | No. of piglets born | No. of piglet/pig sold (Rs.) | Rate per piglet/adult pig (Rs.) | Total Income (Rs.) | Cost of production (Rs.) | Net profit (Rs.) | B:C ratio |
| II | Prasanna Chowdhury Para | Satya Rani Debbarma | Rs.20,000.00 | 02 nos. | 06 nos. | Piglets: 06 nos. Adult pig: 01 no. | Piglets: 4,000-4,500.00 Adult pig: 7000.00 | Rs.33,000.00 | Rs.17,868.00 | Rs.15,132.00 | 1.84 |
| I | Debkanta Chowdhury Para | Paltu Debbarma | Nil | 02 nos. | 08 nos. | Piglets: 06 nos. | Piglets: 5000.00 | Rs.30,000.00 | Rs.14053.00 | Rs.15,947.00 | 2.13 |
| II | Prasanna Chowdhury Para | Satya Laxmi Debbarma | Rs.15,000.00 | 02 nos. | - | Adult pig: 02nos. | 34000.00&9000.00 | Rs.43000.00 | Rs.10500.00 | Rs.32,500.00 | 4.09 |
| I | Debkanta Chowdhury Para | Nishiranjana Debbarma | Nil | 02 nos. | - | Adult pig: 01 no. | Adult pig: 30,000.00 | Rs.30,000.00 | Rs.11,375.00 | Rs.18625.00 | 2.63 |
| II | Prasanna Chowdhury Para | Binanda Debbarma | Nil | 02 nos. | - | Adult pig: 02nos. | 8200.00&6500.00 | Rs.14,700.00 | Rs.7805.00 | Rs.6895.00 | 1.88 |
| II | Prasanna Chowdhury Para | Tulamati Debbarma | Nil | 02 nos. | - | Adult pig: 01no. | 10,500.00 | Rs.10,500.00 | Rs.7800.00 | Rs.2700.00 | 1.34 |

Table 7: Impact of DBT Biotech-KISAN Intervention on income of few beneficiaries in West Sikkim (Sikkim)

| Sl. No. | Beneficiary name | Income before DBT Biotech-KISAN Intervention (Rs.) | Piglets received from DBT | Income after DBT Biotech-KISAN Intervention | | | | | | | | |
|----------------|---------------------|--|---------------------------|---|------------------------------|------------------|--|--------------------|--------------------------|------------------|-------------|--------------------|
| | | | | No. of piglets born | No. of piglet/pig sold (Rs.) | Weight gain (kg) | Rate per piglet/adult pig meat (Rs.) | Total Income (Rs.) | Cost of production (Rs.) | Net profit (Rs.) | B: C ratio | % Income increased |
| 1. | Milan Kr. Subba. | 8543.00 | 4 | - | - | 183 | Adult meat per kg-250/- | 45750.00 | 32000.00 | 13750.00 | 1.43 | 60.00 |
| 2. | Santos Kr. Tamang | 22138.00 | 2 | - | - | 208 | Adult meat per kg-250/- | 52000.00 | 15432.00 | 36568.00 | 3.37 | 65.18 |
| 3. | Lakpa Dorjee Tamang | 12387.00 | 4 | - | - | 203 | Adult meat per kg-250/- | 50750.00 | 33214.00 | 17536.00 | 1.53 | 41.57 |
| 4. | Birbal Subba | 27654.00 | 4 | 23 Nos | 14 Nos | 210 | Piglet-5000/- Adult meat per kg-250/- | 137500.00 | 35438.00 | 102061.00 | 3.88 | 269.06 |
| 5. | Ash Bdr. Limboo | 13897.00 | 3 | - | - | 185 | Adult meat per kg-250/- | 46250.00 | 24875.00 | 21375.00 | 1.86 | 53.81 |
| 6. | Ram Kumar Tamang | 12465.00 | 3 | - | - | 172 | Adult meat per kg-250/- | 43000.00 | 24897.00 | 18103.00 | 1.73 | 31.14 |
| 7. | Bhuda Lal Tamang | 14876.00 | 3 | - | - | 181 | Adult meat per kg-250/- | 45250.00 | 25214.00 | 20036.00 | 1.79 | 34.69 |
| 8. | Shiva Kr. Tamang | 21978.00 | 2 | - | - | 185 | Adult meat per kg-250/- | 46250.00 | 15619.00 | 30631.00 | 2.96 | 39.37 |
| 9. | J.B Tamang | 16488.00 | 2 | - | - | 176 | Adult meat per kg-250/- | 44000.00 | 16798.00 | 27202.00 | 2.62 | 64.98 |
| 10. | Laxmi Maya Tamanag | 19879.00 | 2 | - | - | 184 | Adult meat per kg-250/- | 46000.00 | 17013.00 | 28987.00 | 2.70 | 45.82 |
| Average | | 17030 | | | | 189 | | | | | 2.38 | 70.56 |

Photographs of the Demonstrations



Piglet distribution, Namsai, Arunachal Pradesh



Value added pork products, Namsai, Arunachal Pradesh



Piglet distribution, Sikkim



Pig breeding cluster, West Sikkim



Piglet distribution, Dhalai, Tripura



Farmer Scientist Connect meet on 28.10.2021, Dhalai, Tripura



Vaccination against CSF, Hailakandi, Assam



Disinfection drive using slaked lime, Hailakandi, Assam



Training programme, Chandel, Manipur



Beneficiary, Chandel, Manipur



Monitoring and data collection, West Sikkim



Eartagging, Kiphire, Nagaland



Training programme, Mizoram



Feed distribution, Kiphire, Nagaland



**Practical demonstration to master trainer,
Mizoram**



**Disinfection of the pig shed and surrounding,
Mamit, Mizoram**

Summary

- Twenty eight (28) numbers of villages adopted in seven aspirational districts.
- Improved breeds (1125nos.) of piglets (Hampshire cross, Large Black cross, Large white York Shire, Saddleback, Tamworth, Rani breed, Mali breed) have been distributed among 540nos. of beneficiaries (male: 330, female: 210).
- Training programmes (80nos.), vaccination programmes against Classical Swine Fever (32nos.), deworming programme (43nos.), sanitization to prevent African Swine Fever (11nos.), faecal sample examination/ health monitoring (10nos.) were organized. Pig feeds (21500Kg), veterinary medicines etc also distributed.
- Five (5nos.) Biotech-Kisan fellows selected and trained to become Master-trainers in Dhalai (2), Hailakandi (2) and Mamit (1) district, respectively. 20 nos. of rural entrepreneurs developed in Hailakandi (2), Mamit (1), Namsai (15) and Chandel (2).
- 5nos. of pig breeding cluster established in Namsai (4) and Mamit (1) to meet the high demand of improved breeds of piglets in the district.

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