



**Government of Meghalaya
Meghalaya Institute of Entrepreneurship
(MIE)**



**REPORT ON PIGGERY TRAINING HELD FROM 04TH – 13TH NOVEMBER
2013 AT VOCATIONAL Training CENTRE, KYRDEM KULAI**

Compiled by:-

Welbornson Nongbri

REPORT ON PIGGERY TRAINING HELD AT VOCATIONAL TRAINING CENTRE (VTC), KYRDEM KULAI

The Meghalaya Institute of Entrepreneurship (MIE) in collaboration with the office of the Assistant Director Vocational Training, Kyrdemkulai organized a ten days training programme on Piggery Enterprise for the Enterprise Facilitation Centre (EFC) partners and others from 4th – 13th November, 2013 at Vocational Training Centre (VTC), Kyrdemkulai. The total number of participants was 66, from different EFCs of Khasi, Jaintia and RiBhoi Districts. The objective of the training is to promote livelihood through Piggery as an enterprise. The training was inaugurated with the introductory speech from Dr.B. Lyngdoh, Livestock Consultant, MIE, including self-introduction of the participants.

**LIST OF EFC PARTNERS AND OTHER PARTNERS WHO HAVE UNDERGONE THE PIGGERY
ENTERPRISE TRAINING AT VOCATIONAL TRAINING CENTRE, KYRDEM KULAI FROM 4TH
NOVEMBER TO 13TH NOVEMBER 2013**

Sl. No	Name	Address	District	Phone Number	Remarks	Feedback
1	Sh ShlongPohlong	Nongbarehri m	WJH	9862103 577	Amlarem EFC	More organised
2	ShKamthmuKhy riem	Umladkhur	WJH	9856604 575	Amlarem EFC	Practical Training
3	Sh Tasman Mukhim	Jaralod	WJH	9856517 725	Amlarem EFC	Practical Training
4	ShPyrkhatbhaju ngai	Amlaririm	WJH	9615548 872	Amlarem EFC	Satisfied
5	ShEveningborn Swer	Rymbai	EJH	9612008 684	Khliehriat EFC	Satisfied
6	ShTurlangRyngkhlem	Wapungskur	EJH	8014218 727	Khliehriat EFC	
7	ShJines L. Nongum	Nongkrem	WKH	9615365 496	Mairang EFC	More organised (time)
8	ShTephastring L. Nongum	Nongkrem	WKH	9856535 459	Mairang EFC	Satisfied
9	SmtiKanti L. Mawlong	Lummaralon g	WKH	8794183 380	Mairang EFC	Practical Training
10	SmtiShleitimaiH ujon	Mission	WKH	8014404 288	Mairang EFC	Satisfied

11	ShNirmanMarb aniang	Mawnai	WKH	8575128 120	Mairang EFC	Hort&Agri Training
12	ShJitinSnar	Porsohlang	WKH	8014318 427	Mawshynrut EFC	Practical Training
13	ShloanisLyngdo h	Lumpyngnga d	WKH	8014415 007	Mawshynrut EFC	
14	ShKyrshanDien gngan	Riangdo	WKH	8014930 255	Mawshynrut EFC	Satisfied
15	ShShiningstarSy nshiang	Riangdo	WKH	9774561 357	Mawshynrut EFC	Practical Training
16	Sh Harvest Nongsiej	Nongryngke w B	WKH	7308186 956	Mawshynrut EFC	
17	SmtiTherisiaLyn gdoh	Marngor	WKH	9856934 338	Mawshynrut EFC	
18	ShRangsotPuwe in	Langdondai	WKH	8575589 415	Mawshynrut EFC	Satisfied
19	ShRaplangRong rin	Umdang	WKH	8014199 165	Mawshynrut EFC	Practical Training
20	Smti Memorial Marngar	Laitkseh	WKH	9615962 484	Mawthadraish an EFC	Practical Training
21	ShKminLyngdoh	Marngor	WKH	9856406 748	Mawthadraish an EFC	Practical Training
22	ShPowerningRy ntong	Mawthawnia w	WKH	9615857 328	Nongstoin EFC	Satisfied
23	Sh Commander Jyrwa	Mawthawnia w	WKH	9615857 328	Nongstoin EFC	Satisfied
24	ShDandisingKha rsyntiew	Mawnai	WKH	8575178 754	Mairang EFC	
25	SmtiRibalinNon gsiej	Mawranglan g	SWKH	8575913 908	Mawkyrwat EFC	Practical Training
26	SmtilbanishaSyi emlieh	Phodjaud	SWKH	8974447 640	Mawkyrwat EFC	Practical Training
27	SmtiBalariLyngd oh	Mawten	SWKH	9863852 782	Mawkyrwat EFC	Practical Training
28	SmtiMiltinoris Wanniang	Mawten	SWKH	8014403 451	Mawkyrwat EFC	Practical Training
29	SmtiTimuntiJyr wa	Jakrem	SWKH	9615146 368	Mawkyrwat EFC	Satisfied
30	ShPoldipTongw ah	Nonglang	SWKH	8014160 915	Mawkyrwat EFC	Practical Training
31	ShNipstardingD khar	Mawsyntiew	SWKH	8575454 664	Mawkyrwat EFC	Practical Training
32	ShGlisterningDk har	Phodjaud	SWKH	9615738 045	Mawkyrwat EFC	Practical Training
33	ShDisterlandSyi emlieh	Mawthong	SWKH	7308133 250	Mawkyrwat EFC	Practical Training

34	ShMalsingDkha r	Moodymmai	WJH	8575134 526	Thadlaskein EFC	Satisfied
35	ShWompherSut ing	Sohphoh	WJH	9856511 805	Thadlaskein EFC	
36	SmtiYebhaLyng doh	MukhlaNong rim	WJH	9615539 871	Thadlaskein EFC	More organised (time)
37	Smti Milo Sari	Mukhla	WJH	9615732 454	Thadlaskein EFC	Satisfied
38	ShBalajiedNong rum	Mynsngat	WJH	8575736 135	Thadlaskein EFC	
39	SmtiDaplinRyng khlem	Moorap	WJH	8575965 267	Thadlaskein EFC	
40	ShBibalesPyrtu h	SehlamaNon gthymme	WJH	8014307 244	Thadlaskein EFC	Satisfied
41	SmtiPhaida Sari	Mukhla	WJH	8794422 460	Thadlaskein EFC	Practical Training
42	ShManphul Sumer	Sehlama	WJH	9856708 398	Thadlaskein EFC	Satisfied
43	SmtiSolinaKhar bina	Ummulong	WJH	8014035 996	Thadlaskein EFC	Practical Training
44	Sh Re Sari	Ladmukhla	WJH	9615018 906	Thadlaskein EFC	More Organised
45	SmtiDahiMulieh	Wahiajer	WJH	8575328 403	Thadlaskein EFC	
46	SmtiMerynaPhawa	Wahiajer	WJH	8014442 618	Thadlaskein EFC	Satisfied
47	ShBicharmiMuk tieh	Wahiajer	WJH	9856233 601	Thadlaskein EFC	
48	Sh Paul Pala	Ummulong	WJH	8794980 287	Thadlaskein EFC	Practical Training
49	ShDalangkiLang stang	Shangpung Mission	WJH	9863460 172	Thadlaskein EFC	Satisfied
50	ShHurrahtwinS uchiang	Shangpung Mission	WJH	7308320 109	Thadlaskein EFC	Satisfied
51	ShJenesKharbul i	Laitlyngkot	EKH	9774309 982	EDC, Shillong College	Practical Training
52	SmtiBionaMawi ong	Old Tasku	RiBhoi		S&WCD, Nongpoh	
53	SmtiEpnesLyng doh	Old Tasku	RiBhoi		S&WCD, Nongpoh	
54	SmtiDiamondMa khroh	Old Tasku	RiBhoi	8414079 224	S&WCD, Nongpoh	
55	SmtiPrestinaNo ngtri	Old Tasku	RiBhoi	8974043 716	S&WCD, Nongpoh	

56	SmtiBitaRanee	Old Tasku	RiBhoi	8974353 386	S&WCD, Nongpoh	
57	SmtiTrilidaRane e	Old Tasku	RiBhoi		S&WCD, Nongpoh	
58	SmtiDialibonNo ngshli	Old Tasku	RiBhoi		S&WCD, Nongpoh	
59	SmtiDrelMakhr oh	Old Tasku	RiBhoi		S&WCD, Nongpoh	
60	Smti S.S .Makhroh	Old Tasku	RiBhoi	8413086 001	S&WCD, Nongpoh	
61	SmtiSrilidaLapa ng	Old Tasku	RiBhoi		S&WCD, Nongpoh	
62	SmtiPrisRanee	Old Tasku	RiBhoi		S&WCD, Nongpoh	
63	SmtiBanteihun Nongrem	Nongdiat	SWKH	9619241 281	Private	Satisfied
64	ShMohenKhark ongor	MawkhanMy lliem	EKH		Private	Practical Training
65	ShPhinalSohtun	MawkhanMy lliem	EKH		Private	
66	ShBlarinNongkh law	Mylliem	EKH	8974598 792	Private	Satisfied

Introduction of Piggery Enterprise by Dr. B. Lyngdoh, Livestock Consultant, MIE.



Fig. 1: Dr. B. Lyngdoh while giving an Introduction speech on Piggery Enterprise.

Dr. B. Lyngdoh, Livestock Consultant, MIE explained the concept of Piggery Enterprise in the State, its scope and potential, how to start a piggery farm, site selection for the farm, system of housing, details of housing, prevention and control of diseases and feeding. He discussed on the scope of pig farming as a profitable enterprise, faster return and the number of young ones in a single birth is more than other animals. He also highlighted that piggery needs less investment, conversion ratio is high (3:1) in pigs, breeding cycle is short (twice in a year), the net return can be obtained in 3-6 months and piggery is commonly practice by the local people with the potential of using local feeds.. During the session the speaker also briefed on the site selection for pig farm and shed. The site should be dry, elevated with some slope, facing east to west availability of light and water, not direct exposure to sunlight, market access, vicinity to veterinary dispensaries, etc.,. Also the pig shed and sty should be clean and dry. The speaker also discussed on the different types of

housing viz., open air, indoor system, combination system, boar pen farrowing pen, creep space, pen for dry sow and gills and segregation shed. The speaker also discussed details on the housing like size of shed and sty, the walls, the floor and roof.

Session on Site Selection, Housing & Disinfection by Dr.(Mrs) D. Kharumnuid, AH&VO.



Fig: 2 Dr (Mrs) D. Kharumnuid delivering a lecture on Site selection, Housing & Disinfection.

Dr. Kharumnuid ‘s Session on Site Selection, Housing & Disinfection included the following topics:-

- **Site selection**

The first step in putting up or expanding a piggery enterprise is the selection of the site. For the purpose of site selection Dr. D. Kharumnuid suggested the following:-

- Availability and accessibility of essential services such as feed suppliers or stores, water and electricity sources.

- The surroundings should be suitable for construction of drainage and manure disposal, thus, there should be ample distance from neighbours houses and other farms. The site should comply with local policies like zoning and environmental considerations. The possibility of expansion should also be considered.

- **Accessibility**

Check the availability and cost of feeds, water and electricity. Water source should be able to supply for the peak demands and for future expansion. Keep in mind that water demand is thrice the weight of feed consumed plus wastage (15%) and water for cleaning (30%). If high electricity demand is anticipated, a standby generator can also be considered. A farm to market road should also be accessible to facilitate the transport of feeds and pigs throughout the year.

- **Zoning and Permits**

Ideal distance from other farms and neighbours is about one kilometre. This will serve as a natural screen in the prevention of diseases. Distance from the neighbours will prevent complaints regarding pig odours, flies, noise and pollution.

- **Distance from Other Farms**

Check out local zoning laws and regulations for a proposed location. If it is zoned other than agriculture, study the situation carefully before building the pig pen or pig house. Secure all required permits such as building, environmental and other permits required by the government before constructing.

Factors to Consider in Planning Farm Buildings

1. Environmental control
2. Proper ventilation
3. Minimum labour requirement
4. Durability of building materials
5. Dryness
6. Sanitation

7. Rodent and Bird control
8. Future expansion

Bokashi System of Housing

1. Lactic Acid Bacteria (LAB).

Materials needed:

- Rice
- Water
- Milk and
- Jaggery

Steps to follow:

- Wash the rice
- Store the water of washed rice for one week under room temperature
- After one week mix the rice water with fresh milk (1:10)
- Leave the mixture for one week
- After one week filter the mixture and mix it with jaggery (1:20). The LAB is ready for use.

2. Indigenous Micro Organism (IMO).

Steps to follow:

1. Take some rice bran in a bucket and wet it



2. The mixture should have 50% moisture and it should crack when touch



3. Go to a good jungle area and clear the surface



4. Dig a 3-4 inches hole to put in the rice bran



5. Sprinkle some rice bran around the hole



6. Put back the dried leaves



7. Cover with some greenery



8. Cover with a sack



9. Cover with greenery



10. Check after four days. If it has fungus, IMO is present



11.

- Mix rice bran, water and jaggery
- Add a small quantity of IMO
- Cover with a cloth and keep for a week
- The IMO can be taken out for storage
- The IMO will multiply

IMO on a pig pen.

The floor of the pig pen should be at least 3 feet. Materials required to fill the pig pen is as follows:

- Saw dust/Rice husk
- Powder charcoal
- Dried leaves
- Top soil
- Black salt
- Bamboo vinegar
- Water
- Effective Micro-Organism (EM)

Mixing Procedure

1. 40%-50% of saw dust
2. 20%-30% of top soil
3. Add 7% of charcoal waste
4. 15%-20% dry bio-mass
5. Add 10% others (EM, black salt 1kg crush, jaggery& bamboo vinegar)
6. Mix all the ingredients
7. Fill the pig pen with all the mixed ingredients
8. Then level the pig pen
9. After levelling the floor wait for one week or less for IMO to multiply

Bokashi is a Japanese word meaning fermented organic matter and ***Bokashi Piggery*** is to promote growth and management of healthy pigs.

The IMO helps in:

- Suppresses offensive smell of manure
- Prevents flies in pen
- Reduces fatty layer under skin

- Produces robust pigs which do not need inoculation of antibiotics
- Improve the digestive system of the pigs

Below are the steps followed for *Bokashi Piggery*.

- A hole in the ground with a depth of at least 3 feet
- Inside the hole of the flooring the following materials should go:
 - ✓ Saw dust 40%
 - ✓ Dried biomass 20%
 - ✓ Rice bran, rice husk 7%
 - ✓ Good soil 20%
 - ✓ Rice husk charcoal or other charcoal 10%
 - ✓ Sprinkling of black salt, bamboo vinegar
 - ✓ IMO
 - ✓ Water 40%-50%
- All ingredients are thoroughly mixed.
- Water is added
- This moisture content is the most suitable for the IMO to multiply
- If extra moisture is present, it will smell
- Then level the ingredients inside the pig pen.

After leveling the floor wait for one week for the IMO to multiply then introduce the pigs and if they start using their snouts and are relaxed it is a good sign.

Session on Selection of Parent stock by Dr. S. Tham, Sr. AH&VO

The selection of the correct and appropriate health status from the herd and location is vital before breeding stock is purchased. Selection of parent stock should be from a farm which is disease-free.

Selection of gilts:

- Gilts should have 90 kg and above
- Feeding should be followed exactly as done in the farm where they have been taken from.
- Selection of gilts should be from the sow has done weaning for the maximum no of piglets.



Fig: 3 Dr. Tham while delivering a lecture to the trainees.

Selection of boars:

- Performance of the boar should be high standard.
- The boar should have the weight not less than 90 kg and the age of not less to 5-6 months.
- The parent stock of the boar should be healthy.
- The physical traits of the boar should be high standard.

Selection of sows:

- Sows with the maximum number of nipples should be selected to ensure maximum capacity in breeding.
- The length and the straightness of the body are also important in the process of selection.

Steps 1 – Selection of the source based on:

- Availability.

- Genetics (including fecundity).
- Health.
- Market acceptability.
- Quality control.

Step 2 - Determine with your veterinary advisor the health status of your own herd.

Step 3 - Request veterinary liaison with the suppliers' veterinarian and get clarification of the health status of the donorherd.

Step 4 - Assess the compatibility of health status.

Step 5 - Determine the isolation requirements for incoming stock.

Step 6 - Decide on vaccination and acclimatisation procedures.

Session on Breeding Practices by Dr. S. Tham, Sr. AH & VO.

For the purpose of breeding practice it is important to have a good knowledge on the signs of the gilts before mating, the signs of pregnancy of the sow and the time and period of weaning.

Signs of Gilts:

- Expansion of the vulva which lasted for 2-3 days before the heat.
- Mucus discharge from the vulva.
- Restlessness of the gilts
- Mounting of the gilts on others back.

The heat in the gilts comes only after the gilts have attained the age of 7-8 months and it happens after every 20-21 days. The right time for mating is on the second time of heat coming for the first time breeding sows . For the second time breeding sows mating can be done sprightly during the first time of heat coming.

Signs of Pregnancy of the Sows:

- The heat in the sow stops.
- Expansion of nipples after 45 days of pregnancy and so also the stomach.

- The gestation period is 3months-3weeks-3days (\pm) 5 days.

It is important to keep the pig sty warm when the time for delivering its young ones has come for the sow. The warmth of the pig sty should be kept at 24-28 degree Celsius until the piglets attained the age of 3-4 days and 18-22 degree Celsius till 6 weeks. It is also necessary to bring the sow to the farrowing pen 1 week before delivering so that it will adapt to it.

Weaning:

- Must be done after piglets attained the age of 8 weeks.
- It is better to take the sow instead of the piglets from the farrowing pen for the purpose of weaning.
- After 2 weeks the piglets can be shifted to another place.

Session on Concept of Enterprise and Entrepreneurship by Dr. B. Lyngdoh, Livestock Consultant, MIE.



Fig: 4 Dr. B. Lyngdoh while delivering lectures on Concept of Enterprise and Entrepreneurs.

Dr. B. Lyngdoh brought to light the concept of Enterprise and Entrepreneurship. An enterprise is any particular activity undertaken by an individual or group of individual having the same motive of profit generation. An entrepreneurial activity need not be in the form of financial assistance by the government but it may also be started out from personal fund. An entrepreneur is a person who dares to take risk, and thereafter looking forward for his reward which we call profit.

He acknowledged the fact that it is necessary to consider the SWOT analysis while doing piggery enterprise. A person has to take into account his financial and management capacity he is capable of, for e.g., whether he will construct cement or local materials pig sty, this will depend much on his financial strength. Likewise, whether his weaknesses allows him to feed the pigs with concentrated or local vegetables. One has to see at opportunities for future upgradation and expansion if it has to sustain for a longer period of time. Above all, a careful study of the possible

threats that are bound to come along is very important and once these threats have been identified then a proper management has to be followed up. Hence, taking SWOT analysis into account while doing piggery enterprise is necessary so as to ensure it's profitability.

Session on Care and Management of pregnant sow and piglets by Dr. T. Iangrai, AH&VO



Fig: 5 Dr. T. Iangrai delivering lecture on care and management of sow and piglets

Farrowing to weaning

The most critical period in the life cycle of a pig is from birth to weaning. On average about two pigs per litter are lost during this period. Poor management is the major contributing factor, although the actual cause may be crushing, bleeding from the navel, anaemia, starvation or disease.

1. The sow

- The average gestation period for sows is 114 days (3 months, 3 weeks and 3 days).
- The sow should be washed and disinfected before she is removed to the farrowing pen (preferably 4 to 5 days prior to farrowing).
- A sow due to farrow can be moved to the farrowing pen once a week, so she gets used to the farrowing crate to reduce stress.
- The udder should be properly checked for hard spots or lumps.
- Lumps can be treated with an antibiotic.
- Constipation often occurs but can be prevented by feeding sows green feed such as lucerne or high fibre (bran or pollard).

2. Preparation for farrowing

- The farrowing pen should be erected at some distance from the other pens.
- Strict hygiene should be maintained at all times.
- It is very important to wash the farrowing pen properly after the sow and her litter have been removed.
- All dirt should be removed by using a high-pressure spray, scrubbing-brush or hard broom.
- The pen should be cleaned using an effective disinfectant such as a 4% formalin solution. It should then be left unoccupied for 2 to 3 days.
- Soiled and wet bedding should be removed daily and replaced by dry bedding.

3. Farrowing

It is very important to supervise the farrowing process. The newborn piglets have three basic requirements, namely:

- A suitable environment.
- Adequate and regular nutrition.
- Absence of disease and crushing.

The following factors should be considered after the sow has farrowed:

- Watch out for constipation in the sow.
- The afterbirth must be discharged.
- Check the sow for fever as a result of infection.
- The sow must have enough milk—agalactia may cause the litter to die from hunger.
- Agalactia and mastitis require immediate treatment and a specialist should be called immediately.

Management after farrowing

1. Navel cord

- The navel (umbilical cord) should be cut as soon as possible, a few days after the piglets' birth.
- The length of navel cord is about 12 cm and a section of 2cm should be left. Use disinfected scissors.
- The navel should be disinfected by using an iodine solution to prevent bacterial infection.

2. Teeth clipping

- It prevents injuries during fighting among piglets and it also prevents biting and scratching of the sows' teats.
- Take care when clipping teeth to avoid damage to the gums.
- It is safe and effective to leave about half of the tooth.
- It is also advisable to clip teeth using a suitable tusk clipper.

3. Iron injection

- Piglets are born with limited iron reserves and the sow's milk does not provide the iron requirements of the piglets that are reared on concrete floors.
- Iron deficiency causes anaemia, which results in poor appetite and growth.
- Iron supplements should be administered as soon as possible after birth (3 to 7 days) by means of an injection in the neck.

4. Ear marking

- Piglets should be earmarked for identification purposes.

- There are various types of eartags which can be attached to the ears.
- The ear number system of the SA Pedigree Association should be used for pedigree purposes.

Session on Feeding, types of Feed and Feeding Formulation by Dr. S. Tham, Sr. AH & VO

Feed is the major cost component in Piggery enterprise, it occupies 70- 80 percent of the total expenditure. Hence, a proper knowledge of the feeding system is very important so as to avoid unnecessary expenditure on it which may render the enterprise economically unviable. Pig feed should be given in such a way that it maximises the utility for the pigs and minimises the cost through proper mixture of ingredients and feed types. Pigs can transform 4 kg of feed into 1 kg of meat and again here lies the importance of concentrated feed.

Dr. Tham also highlighted the importance of proper feeding practices so as to ensure that the pigs are healthy having strong immune system for various diseases, that the feed-meat conversion capacity is at the highest and better breeding capacity.

He emphasized on the scientific dosage and quantity of feed needed for the pigs to be fed and the timing for feeding

There are two types of feed:-

- 1. Roughages-** They are raw vegetables and grasses. Roughages are rich in crude protein.

Roughages are of two types:-

- Dry
- Succulent

- 2. Concentrated-** They are mixed feeds, mixed in the scientific ratio required by the pigs.

Concentrated feed is classified into the following:-

- **Energy Feeds-** These are energy providers feeds and also help in building up the physical structure of the pigs, e.g.: wheat, corn, rice husk.

- **Protein Feeds-** These are feeds that help in the growth of pigs and their hormones development. Proteins can be derived from vegetables and animals (e.g., dry fish).

Vitamins and Minerals- They help in the development of the immune system of the pigs, they are available in the market as ready made vitamins and minerals which can be mixed easily with the feed.

Feeding Formulation:-

- **Creep Feeds-** These feeds should be given right away after the pigs have attained the age of 2-3 weeks until they have the weight of 15 kg.
- **Grower Feeds-** They are given to the pigs after they have been separated from the sow until they attained the age of 35 weeks or have the weight of 35 kg. Crude protein is needed for about 18-20 percent in this period.
- **Finisher Feeds-** Finisher feeds are given for pigs weight 35 kg and above. Here crude protein is needed for about 15-16 percent.

It is found that 72% from the growth of the pigs depends on the feed and the feed formulation. It is suggested that for fatteners 2.3 kg of feed is to be given for pigs having the weight of 45 kg and this should be increased to 2.8 kg when the pigs will be weighting 60-70 kg. This pattern of feeding formulation is followed so as to ensure that pigs gain weight of 0.84 kg every day.

Session on Entrepreneurial Skill (Savings) by Mrs. Alma Dohling, SIRD Faculty Member.



Fig: 6 Mrs. Alma Dohling on her lecture about Entrepreneurial Skills (Savings).

The session provides insight on how to manage time effectively, proper training and being professional at what they choose to do for a living. She also stress on how to utilize time by getting involve in livelihood promoting activities during off hours. She gave examples of Laitkyrkhang smoked meat which is being sold door to door by the farmers to different parts of the state. She stressed on the importance of being aware of locally viable businesses. She also highlights the importance of the spirit of healthy competition in business by improving the quality, value addition services and introducing varieties and proper knowledge about the markets.

Session on Common Diseases in Pigs and its Control by Dr.(Mrs) D.Kharumnuid, AH & VO.

Dr. Kharumnuid explained about the common diseases which affect the pigs in our state and the measures taken to prevent the same. Examples of Common diseases which are affecting the Pigs caused by viruses are Swine Fever, Japanese

Encephalitis (Zoonotic Disease), Swine vesicular exanthema, Transmissible Gastroenteritis, Foot and Mouth Disease(FMD), etc and disease caused by bacteria like Brucellosis, Greasy Pig disease, Swine Erysipelas, , Mastitis, etc.

Some of the disease which affects the piglets are piglet anaemia, piglet scour, etc. which can be easily corrected with proper feeding system. Some diseases are very dreadful as it can affect the health of human being and in some case it can be fatal. So knowledge of these diseases is critically important for the entrepreneur to avoid any unwanted diseases to spread to human.

She pointed out some of the common viral diseases of pigs which include Swine Fever, Foot and Mouth disease, Japanese Encephalitis, Porcine and Reproductive and Respiratory Syndrome and Swine Influenza.

She also brought to light the causes, transmissions, stages of infection and the preventive measures to be taken therein. Dr. Hynniewta acknowledged the fact that these diseases can also be transmitted to human beings and hence every entrepreneur should be aware of this. These diseases can be read in human beings through symptoms like high fever, headache, stiffness of neck and mental retardation which may cause to coma and death. One of the best ways to prevent against these diseases is to keep away the infected pigs away from human habitations (at least 50 meters).

There are also some of the Bacterial diseases in pigs, some of them are Anthrax, Colibacillosis, Salmonellosis, Burculosis. And the common parasitic diseases are Taeniasis, Ascariasis, and Mange. These diseases can also be transmitted to human beings if not prevented in a very proper way. Hence, all the possible preventive measures and the symptoms so as how to manage and tackle these diseases.

For health management therefore, Dr.Kharumnuid suggested the following:

1. Always buy your stock from a pedigree and disease – free herd.

2. Feed adequate balanced ration to the growing pigs, finishers and breeding stock.
3. Deworm the herd every quarter.
4. Vaccinate the pigs every year against diseases for which vaccines are available.
5. Provide adequate shade and shelter and ample water especially during the summer season.

Session on Record Keeping by Dr.V. Hynniewta, Sr, AH & VO.



Fig: 7 Dr. Hynniewta while delivering a lecture to the trainees.

Dr .V. Hynniewta highlighted the importance of keeping records so as to:-

- Know the expenses incurred for feeding and management.
- Assure the correct pricing of livestock reared.
- Ascertain the profit or loss of the enterprise.
- Give an idea about the possibility to expand the enterprise.
- Keep a correct pedigree records or systematic breeding records.
- Know the disease prevalence, mortality and morbidity.

Some examples of records keeping are Individual register, Feeding register, Breeding register, Farrowing register, Medicines Register, Health Register, Vaccination Register ,Etc .Knowledge of keeping records is one step ahead towards becoming a successful entrepreneur.

Efficient Records Keeping is the key success of any Business enterprise.

Session on Marketing on Piggery products and processing by Dr. B.Lyngdoh, Livestock Consultant, MIE.

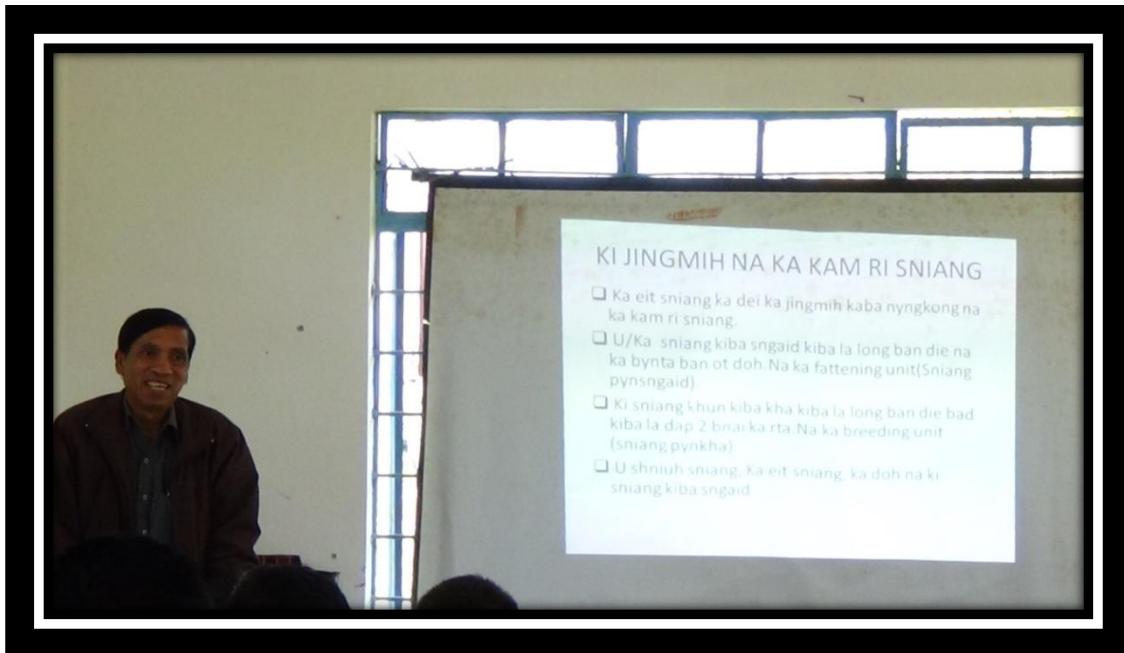


Fig: 8 Dr. B. Lyngdoh delivering a lecture on Marketing of Piggery products and processing.

The session was taken by Dr.B. Lyngdoh, Consultant, MIE. He listed out the various products and by-products of piggery rearing, which are as follows:

1. Piglets from breeding
2. Meat from fattened pigs
3. Pig hair
4. Pig dung.

He also listed out the processed products which include:

1. Hamburger
2. Fried sausage
3. Kebab
4. Pork Patties
5. Cutlet
6. Dry Meat
7. Fermented sausage
8. Meat loaf.

And here lies the importance for the trainees to know about the available processing machines and from where to get them, in which Dr. B. Lyngdoh has pointed out some:

1. Pig skin peeler
2. Meat Cutting Machine
3. Pork Meat Ball Making Machine
4. Steam Pork Processing Machine
5. Frying machine
6. Animal Bone Processing Machine.

The processed pork products are available from M/S-J.S. Stores Laitumkhrah, M/S- Rap Mansion Kachari road, Big Chinese Restaurants, G.S Road Mawlai and other general stores.

Session on Integrated Piggery-cum-Fishery Farming by Shri. David Kharwanlang, Fishery Officer, Khliehriat.

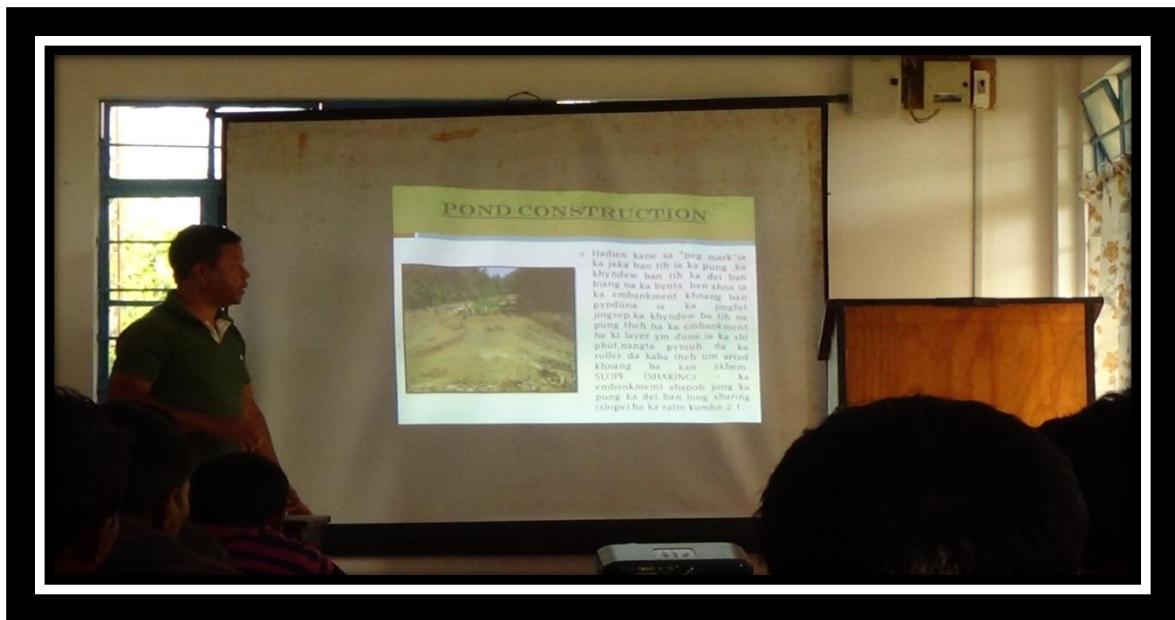


Fig: 9 Shri. David Kharwanlang is giving lectures on Integrated Piggery- cum- Fishery Farming.

The Fishery Officer gave introduction about fish and fish farming with reference to Meghalaya. Fish is a cold blooded animal, living in water and breathing dissolved oxygen with the help of gills. The fish meat contains all the ingredients that a human body needs like Proteins, Carbohydrates, Vitamins, Minerals, etc.

He also reminded about the Chinese proverb – *A fish a day, keeps the doctor away*. He also gave information on the per capita status recommendation and available of fishes in India.

Per capita consumption of fish:-

World Health Organization – 11Kgs/person.

National Nutrition Committee – 31 kgs/person.

Nutritional Requirement in the State= 25,000mt. /year.

He also discussed on the fish species like catla, silver carp, rohu, grass carp, mrigal and common carp. Pig-fish system is prominent in China, Taiwan, Vietnam and Hungary. According to study it is found that 70% of pig waste is beneficial for fish as feed. The undigested solids from pig also are good feed for tilapia spp. The waste from 30-35 pigs is equivalent to 1 tonne of Ammonium salt. He also threw some light on the site selection and construction of fisher ponds- topography, soil

type & source of water. The site should be on the catchment area with good soil type and near the source of water with the potential to tap runoff water. There are different kinds of ponds like Nursery pond for spawn, Rearing pond for fry and Stocking pond for fingerling. Pond management practices like liming and manuring need to be done from time to time. While constructing the pond for fish cum pig farming one should consider the land slope fro pig shed and sty and the size of pig shed. The waste from 30-40 pigs is enough for one 1haactare of fish pond @10,000 fingerling/ha. Feeding of pig three times per day with balance pig marsh as per their requirement and fed @ 1.4 kg/pig/day. Grasses and green cattle fodder @ 15-30% incorporated in the feeding ratio. Health care of pigs against Swine fever, swine plague, swine pox and healthy housing management is of prime important. The production of fishes by this method is 5.5-6.0 MT/ha/yr and for pigs is 4.2-4.5 MT/yr.

Queries raised by the participants

1. What is the appropriate size and depth of pond for fish cum pig farming?

Reply: Size is 0.2- 2.0 ha

Depth is 1.5-2.0 m

2. How much lime to apply at pond pre-treatment?

Reply: 250-300 kg/ha by apply as powder to the soil before it is filled with water.

3. Can the waste from pig sty be drained directly into the pond?

Reply: Yes but one need to check if the algal starts to bloom then it should not be drain into the pond especially during cloudy days.

Session on Scientific Slaughtering & Piggery Waste Management by Dr. M. Tyngkan

For slaughtering of pigs Dr. M. Tyngkan suggested the following:

- A pig needs 3 days rest before slaughtering so as to ensure the examinations and testing are not misleading.
- A Pre-Mortem Examination is needed to test whether the pig is disease-free or not.
- The use of Stunning method while slaughtering in order to minimize the pain therein.



Fig: 10 Dr. Tyngkan while delivering a lecture to the trainees,

- Cleaning of pigs by putting it under water mixed with salt for 6 minutes and then the removing of hair is done.
- Post- Mortem Examination is needed for getting a disease-free certificate for retail marketing.

He also highlighted the fact that 6% of the people of the state suffered from *Cysticercus cellulose* which is transmitted from pig to human. And therefore, here

lies the importance for the pig entrepreneurs to know how to identify this particular disease in which Dr. has suggested some.

Modern Stunning Techniques Used Prior to Slaughtering

Critics of Islamic and similar Jewish procedures in slaughtering animals oppose the fact that 1902 (a) is not implemented, which calls, though optionally, that animals be stunned before their throats be cut. This is based on the claim that stunning renders the animal insensible to pain, although the more favourable opinion is that it renders the animal easier to control in mass factory-like slaughter houses. Some modern means of stunning are the following:

Mechanical Methods:

Captive Bolt Pistol (CBP): This stunning method is widely used for all farmed animals and rabbits. Gun powder (cartridge), compressed air and spring under tension drive bolts through the skull of animals. This type of stunning is widely used for all farmed animals. It is called ‘captive’ since the bolt is shot out of the barrel but remains attached to the pistol.

Concussion stunning. A mechanically operated instrument delivers a blow to the brain and concusses the brain. Used for cattle, sheep, calves, rabbits.

Free bullets. Used for animals difficult to handle such as wild pigs, bison, deer, horses or in emergencies.

After stunning animals may be pithed, involving inserting a rod into the cavity made by the bolt to destroy the lower portion of the brain and the upper spinal cord. In all these methods, unconsciousness is caused either by penetration of the skull which causes brain damage or by causing a concussive blow to the brain without penetration. After stunning the animal undergoes sticking which cuts off the blood supply to the brain. After animals are stunned and stuck, they are bled, and it is the bleeding that causes death. The industry requires that the heart should remain beating as long as possible after sticking to ensure that as much blood as possible is removed from the flesh and blood vessels. This apparently maintains the quality of the meat and its keeping potential.

Electric Stunning

- **Head-Only Stunning:** Cattle, sheep, goats and ostriches are all stunned using this method. The technique involves the application of a pair of electric tongs on either side of the animal’s head. An electric current is then passed

through the brain and this supposedly leads to the temporary loss of consciousness.

Cardiac arrest stunning: Used for cattle, sheep, pigs, rabbits and goats. An electric current is either sent through the head and body at the same time to span the brain and heart or is sent though the head first and then across the chest or through the head and body at the same time.

Water Bath Stunning: This is a widely used method of stunning for chickens, turkeys, geese and ducks. In this method, birds are shackled upside-down on a moving conveyor belt that takes them to the electric water bath. The birds' heads are to supposedly be immersed in this water causing their electrocution. In recent years, the strength of the electric current has been raised to ensure the death of the birds by cardiac arrest.

Gassing

Birds may be stunned using CO₂ and Argon gas while they remain in their crates. Pigs are also gassed using CO₂.

Sticking

In this method a knife is stuck into the animal's throat or neck causing brain death from the rapid loss of blood supply to the brain.

Query:-

Does the Animal Feel Pain in This Method?

Studies have shown that stunning the animal with the mentioned techniques put the animal through unnecessary pain. Concerning CBP, the study at the German University showed the following result for stunned animals:

1. The animals were apparently unconscious soon after stunning.
2. EEG showed severe pain immediately after stunning.
3. The hearts of the animal stunned by CBP stopped beating earlier as compared to those of the animals slaughtered according to the Halal method resulting in the retention of more blood in the meat. This in turn is unhygienic for the consumer.

Although the animals were rendered unconscious, they felt severe pain from the stunning, a factor not present in the Islamic manner

Session on Risk Management by Shri J.T Rymbai, Senior Divisional Manager, National Insurance Company Ltd

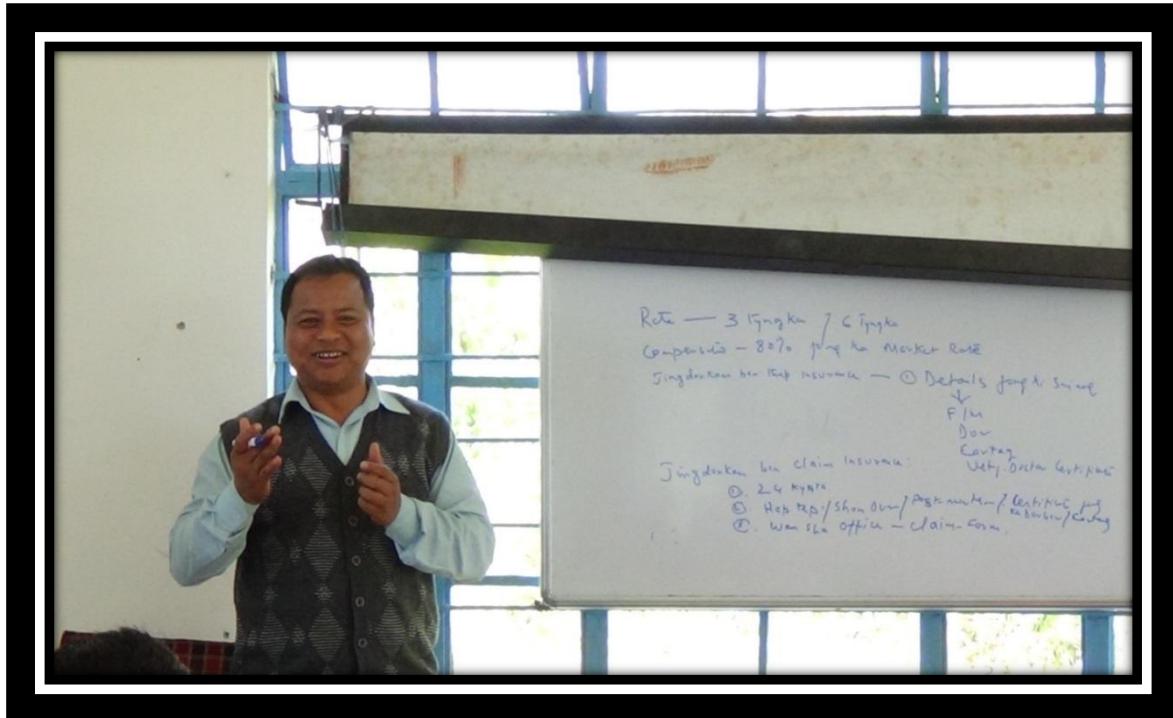


Fig: 11Shri J.T. Rymbai delivering lecture on Risk Management.

Shri. J. T. Rymbai, Senior Divisional Manager, National Insurance Company Ltd was the resource person for the discussion Risk Management session. He explained the meaning of Risk, Risk Management and the process of Risk Management. In order to minimize risk one should know how to manage, identify, analyze, assess, to implement risk control measures, evaluate and review risks involved therein.

Shri. J. T. Rymbai also highlighted the benefits of risk management. And here lies the importance for things to be insured. He pointed out some of the requirements in order to get things insured in general and for piggery in particular.

When it comes to piggery, for schemed piglets which are 4 months old onwards are insurable, for non-schemed piglets, 1 month old onwards are insurable.

He also gave clarification regarding the needs and requirements at the time of claiming it, which are as follows:

1. Has to be done within 24 hours
2. Pigs should have ear tag
3. Death certificate from headman
4. Post-Mortem from veterinary Doctor
5. All documents regarding pig rearing.

Exposure trip to integrated piggery cum fishery farm of Shri.Alexander Syiem at Nongkohlew.



Fig:12 Demonstration and explanation by Shri. Alexander Syiem at Nongkohlew.

The trainees were also taken for field and exposure trips to the integrated fishery cum piggery farm of Shri. Alexander Syiem at Nongkohlew, Government Pig Breeding Farm at Nongpiur, Upper Shillong, and Piggery Farm of Dr. J.S. Lyndoh at Lad Mawreng with the guidance of SIRD, MIE and MSRLS staffs.

Shri. Alexander Syiem gave words of inspiration to the trainees by imposing the idea that they should work in an integrated way to livelihood so that they can get better income. The farm main objective of the farm is for fingerlings production for the fish farmers in the area or the district. The farm consists a large proportion for Fishery ponds (1.15 ha), RCC water ponds for fingerling production, orchard in which fruit trees like pomelo, banana, oranges, chestnut and others are grown. Coffee plantation is also in young stage. The farm also contains poultry (layers and broilers), pig fattening and seedlings for some tree species and flowers.



Fig:13 Exposure trip to Dr. J.S. Lyngdoh's pig farm at Ladmawreng.

The trainees were also taken to the piggery farms of Dr. J. S. Lyndoh at Ladmawreng, East Khasi Hills. The farm is a pig fattening farm where there are 60-70 pigs and piglets with well built sheds and proper water supply along with good drainage.

In Dr. J. Lyngdoh's farm at Ladmawreng the trainees got to see how a private pig farm is being done in a very scientific way. However, it is quite different from the Government farm especially when it comes to the way of feeding the pigs.

As explained by the manager of the farm the reason is that private farm has a profit motive where as Government farm does not.

Query: Is the feeding practice the same as in the Government farm?

Reply: No, we have to keep in mind the profit motive of our enterprise.

Query: How the owner procures piglets?

Reply: The piglets were bought from nearby breeding units.

Query: What are the types of feed given to the pigs?

Reply: Pigs at this farm were given concentrated feeds along with local feeds like vegetables from kitchen and kitchen waste.

In the Government Pig Breeding Farm at Nongpiur the officer in charge of the farm Dr. (Mrs) R. Kharlukhi, A.H. & V.O, ICDP, Upper Shillong gave introduction about the farm. The farm is strictly for pig breeding purpose whereby the piglets are sold to the farmers at the Government rates. The farm consists of 273 pigs including piglets. The different types of breed kept in the farms are Hamshire, Duroc, L.W.Y, Ghungroo, T & D and Cross bred consisting of boar, sow and gilt.



Fig: 14 Field and exposure trip to Government Pig Breeding Farm at Nongpiur.

Queries raised by trainees:

Query: Can left out food be given for pig feed?

Reply: Yes, but it should not be a rotten one.

Query: Can mating be done taking a local gilt and an exotic boar?

Reply: Yes, but the size should not differ much.

Query: How many times in a day the piglets have to take milk from their mother?

Reply: Every one hour during the first five days.

Query: What is the cost of one piglet from the farm?

Reply: 2-3 months old piglet costs Rs 2300

3-4 months old piglet costs Rs 2600

Query: How to get piglets from this farm?

Reply: The farmers need to book the piglets in advance by visiting the farm or by contact the farm head.

Query: How many the times mating has to be done for the pigs?

Reply: Two to three times for a single pregnancy cycle.

Query: How to know which type of feeds from the markets is best for the pigs?

Reply: Consult with the veterinary doctors, veterinary field assistants and existing entrepreneurs in the field.



Fig: 15 Demonstration and explanation of pig sty by Dr.(Mrs) R. Kharlukhi.

Session on Preparation of Business Development Plan

The session was taken by Mr.U. Luwal, Branch Manager,SBI, Umroi.



Fig: 16 Mr. U. Luwal in the session on Preparation of Business Development Plan.

Mr. Luwal provided the costing norms regarding the construction of pig sty. However, he noted that costing may vary from place to place and from person to person depending on the topography and the available of local materials for construction.

The minimum sizes for piggery rearing which are bankable are: 1:4, 1:5:5 and 10 for breeding, breeding cum fattening and fattening respectively.

He also highlighted some of points regarding pig rearing on how selection of animals or breeds should be selected, construction of pig sty, feed and feeding, management of market pigs and disease control.

All the three sub sectors of piggery are bankable from SBI, the branch manager told. He noted some of the salient features of the project for bankability which are:

- Eligibility
- Purpose of Loan
- Animal Purchase Norms
- Margin Contribution
- Insurance

- Security
- Period of Loan
- Moratorium Period
- Repayment Period
- Rate of Interest
- Project Viability Parameters.

Evaluation and Valediction:



Fig: 17 Group photo of the Trainees along with the Resource persons and MIE staffs

The training completed successfully and it has been able to meet the expectation of the trainees to the possible extent. However, there are some who are willing and feeling the need to undergo for further training, practical training, training on marketing, training for vaccination and castration which are to be followed up sooner.

The training would not have completed successfully without the resource persons from various departments, agencies and institutions.

On this day, certificates were given to all the trainees and valediction speech was given by the MIE and the Kyrdemkulai staffs. The staffs from both the institutes ended their speech with a wishing note “All the very best for your Piggery Enterprise”.