NATIVE PIGS:
a climate resilient business enterprise

DEPARTMENT OF AGRICULTURE 1898

SEAL OF THE MUNICIPALITY OF GUIMBAL, ILOILO

IIRR

CGIAR

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

The International Institute of Rural Reconstruction (IIRR) introduced the low external input project on small-livestock system to communities in Guinayangan. This was part of the *Developing Scalable Approaches for Community Based Adaption* project of IIRR. Climate-smart agriculture (CSA) approaches, including those in livestock production, were introduced to help build farm resilience in anticipation of the impacts of climate change. This work was implemented as part of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. The experiences shared in this was generated over 6 years. Replication are now seen in nearly all of the Philippine Department of Agriculture Climate-Smart Villages. For details please visit https://ccafs.cgiar.org/donors. The views expressed in this document cannot be taken to reflect the official opinions of these organisations.

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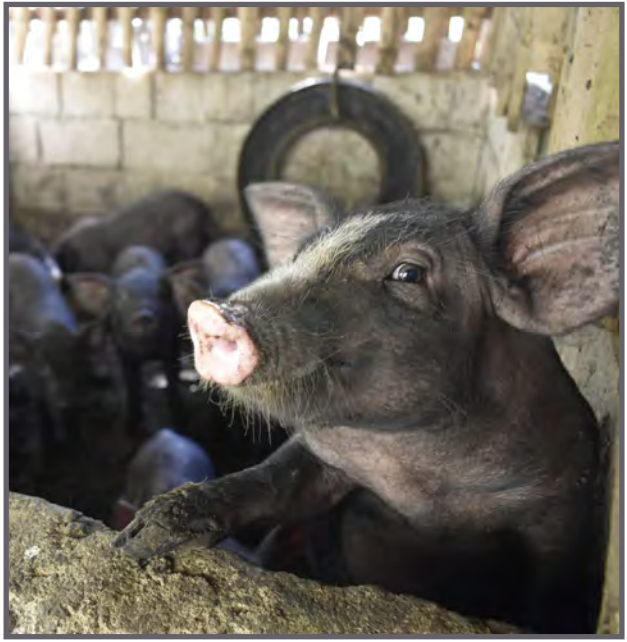
Native pig raising programs support the economic empowerment of women, especially from poor households. This is because native pig raising involves low capital requirements, low capital investment, and low emission development approaches (less reliance on commercial feeds).

In the municipality of Guinayangan, livestock production is one of the more reliable sources of income and food for households, especially for women.



Native pigs are characterized by their distinct black color, although it is not uncommon to see breeds with white, red, or black spots. Both the sow and boar have an average weight of 40 to 60 kilograms (kg).

Pigs are being raised easily in the farmers' backyards, helping diversify and reduce total reliance on crop farming. The tolerance of native pigs to withstand climate variability is known to be considerably higher than that of commercial or imported breeds.

Reproduction and growth in native breeds is consistent even when experiencing adverse conditions. Compared to the other breeds, native pigs are more resistant to common parasites, pests and diseases, making them an asset of high value and reliability.

Native pigs are easier and cheaper to raise because they are well-adapted to local conditions and do not require expensive housing and care. They are fed with organic materials available in the household or farm like food wastes, vegetable scraps and plant leaves.

Through utilising low cost and easily accessible materials such as coconut husks, soils, rice hull, dried leaves, and saw dust, a deep bed flooring system can be developed. These considerably reduce the smell and consequently the flies, promote the health of the pigs, provide farms with a source of natural compost whilst providing the pigs with a comfortable and stimulating environment.

The native pig is favored for the popular Filipino roasted pig 'Lechon', with the meat being considerably tastier, crispier and leaner than imported and commercialised breeds. More nutritional value is held, with higher protein content but lower fat and cholesterol.

D.O.A. (2015). Value Chain Analysis for Native Lechon. Department of Agriculture – Bureau of Agricultural Research.

Native pig raising projects are not recommending the use of hormones and antibiotics. Food safety for human consumers is an important consideration in promoting native pig production.

Farmer Learning Groups (FLGs) were organized to provide the beneficiaries with a platform for knowledge exchange about the breakthroughs in the action research being conducted in the community.

Farmers meet regularly (once a month) to share experiences among each other. Discussions are open, and support and engage women. Learning and knowledge emanate from those shared experiences. Meetings and processes are documented.

Different breeds of native pigs in the Philippines

QUEZON

BT-BLACK

MT. PROVINCE

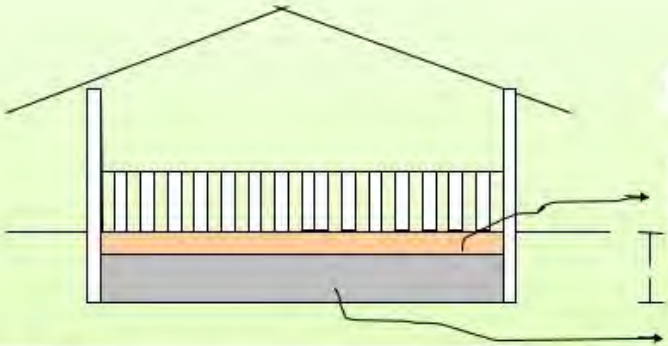
MARINDUQUE

KALINGA

Housing and Free Range

Presently, native pigs can be seen tied under shady trees or roaming freely around backyards in coconut-based farms in Quezon. It is also recommended that a fenced grazing area, made of coconut trunk or bark, wooden planks, or bamboo slats, be provided.

The recommended measurement for the pen is 2 x 2 meters (m) per sow or boar. The pen should have a roof which can be made of local materials such as nipa, cogon, or *anahaw* (foodstool palm). The walls can be made of bamboo and coconut trunk or bark.



More info:

- Can use saw dust, rice hull/straw etc.
- Water the top soil if needed (ideal 60% moisture)
- Average: 1-2 years it depends on no. of animals
- Not ideal to lowland or flood prone areas

Dr. Rene Santiago. (2018). Native pig production. Bureau of Animal Industry

Range (open)


Grower (10ft by 8ft)
Extra pen
Boar (8ft by 5ft)
Sow (5ft by 6ft)
Sow (5ft by 6ft)
Sow (5ft by 6ft)
Sow (5ft by 6ft)

Sample housing design

Dr. Rene Santiago. (2018). Native pig production. Bureau of Animal industry

Breeding and Reproduction

The breeding of native pigs is done naturally; boars and sows are confined together in a 15 x 20m pig pen with shed. A 1:10-15 boar to sow ratio is recommended. The pigs may initially be confined separately then brought together at the time of breeding.

Characteristics of ideal boar and gilt/sow for breeding:

1. **Healthy and free from defects**
2. **Round, thick-bodied, and with appropriate body length**
3. **Strong legs**
4. **A sow should have 5-6 pairs of teats, produce 8 or more piglets per farrowing, and exhibit maternal behavior (caring for the young)**
5. **Boar should have testicles of equal size, be the largest in its litter, exhibit a fast growth rate, and have other appealing characteristics such as a black body color.**

In Guinayangan, Quezon, feeding practices of the farmer usually involved commercial feed only in the first month and the succeeding months are mix of wheat bran or rice bran, coconut/copra and any available vegetables in their backyard.

Feeding

Piglet (10-30 days old)
– Easily digestible feeds (commercial hog starter mash)

– Additional fruits, vegetables, rice bran, ground corn, or coconut

Feeding

Sow and Boar
– 1-1.5 kg mixed feeds (rice bran, corn, copra) per head per day

– Give supplements like grass, leaves, kitchen leftovers, cooked taro, cassava, or elephant yam (pungapong)

Note: Additional feeds should be given for lactating sows.

Feeding

Grower (2-5 months old)

- **0.3-1 kg mixed feeds per head per day**

- **Supplements like grass, leaves, kitchen leftovers, cooked taro, cassava, or elephant yam (pungapong)**

Feed Ingredients

SALT

LIMESTONE

RICE BRAN

COPRA

GABI / TARO

MOLASSES

Recommended ration

Feeds for sow and boars

Ingredients	Quantity
Rice Bran	50
Corn	14.2
Copra Meal	30
Molasses	3.5
Limestone	2.0
Salt	0.3
Other forag-es	Ad-libitum
Total	100

Feeds for weaners and growers

Ingredients	Quantity
Rice Bran	37
Corn	30
Copra Meal	27
Molasses	3.00
Limestone	2.0
Salt	0.30
Other for-ages	Ad-libitum
Total	100

For commercial production, this feeding guide may be used.

OTHER LOCALLY AVAILABLE FEEDS

- Gabing San Fernando
  - Adapted to wide range of weather
  - Suited in sandy loam and shaded areas
  - Can be seen in many areas in the country
  - Comparable to corn in terms of nutrient

Kamote/ Sweet potato

Halyas (Banana trunks and leaves)

Elephant Yam

KANGKONG

***Tricanthera* or madre de agua: a highly recommended perennial green**

- **Easy to propagate**
- **Forage with high protein and calcium content**
- **Palatable to pigs and other animals**
- **Can be given fresh or dry**

Intensive feed garden

Intensive feed gardens (typically 200 sq meters) should be established at the start to support feeding with fresh feed. Roots and tuber crops (yams, sweet potato, taro and cassava) and greens such as Tricanthera and Malungay (horse radish tree) and Japanese Malungay (Saurorpus).

Guidelines in caring for native pigs

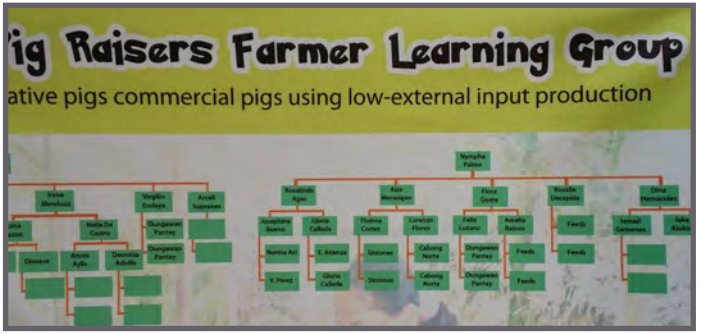
1. **Caring for the sow during parity: If the sow is showing signals of impending parturition (10 days before due date of parturition or giving birth) such as swelling of the mammary glands and reddening of the vulva, the sow can be brought to a farrowing pen.**

   - **Do not feed the sow on the day of parturition, provide drinking water.**
   - **Ensure that the cage floor is dry and clean.**
   - **Place a protective underlayer (leaves, haystack, etc.) on the floor and never disturb the sow at the time of giving birth.**
   - **Avoid causing discomfort to the piglets by separating them from the mother or removing their teeth on the day of parturition.**

Caring for the sow after parity

- **Allow piglets to roam around on the ground for them to get additional iron.**
- **Perform castration on male piglets between 10-14 days old.**
- **Ensure that the pen and its floor are dry at all times to avoid infection.**
- **Provide separate feeds for piglets.**
- **Wean the piglets from the mother at 45 days old.**
- **Administer vaccine for hog cholera or pests when the piglets reach 2 months of age.**

Decentralized community propagation and distribution centers are established to provide breeders stocks of promising native pig breeds at local levels. These are usually for wide-scale distribution to farmers. The facilities are communal in the interim, but will eventually be managed by individual farmers.



In 2015, native pigs were introduced to seven farmers in Barangay Arbismen, and five each for barangays Capuluan Tulon, Ermita, and Magsaysay in Guinayangan, Quezon. Decentralized and farmer-managed multiplication and dispersal centers have been established to further improve access to better breeds of native animals. Total number of household growing native pigs are 142. (QLC data 2020)

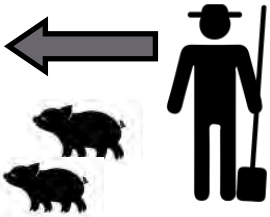
This approach includes 'pay back' mechanisms to benefit more farmers over time. Social inclusivity goals are fostered reducing the incidence of elite capture. Community Innovations Funds are used to build such support facilities.

Farmers are expected to help disseminate the idea within the community by using pass on scheme. All of the original beneficiaries have shared their livestock assets with at least two other farmers, many of whom have then gone on to also share to at least one additional farmer.

Community breeding center

Bringing sow to breeding center

Stay the sow 2 –3 days
For natural breeding



Farmer will give 1
piglet as payment

It is important to have community breeding center to support farmers in terms of breeding and multiplying the breed that they want to preserve.

Climate-smart livestock production can reduce the carbon footprint of livestock production by emphasizing small scale, backyard systems that rely more on locally grown alternative feed sources without chemical additives.

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https://ccafs.cgiar.org/blog/low-inputs-big-gains-benefits-climate-smart-livestock-production#.XoKq3IgzbDe

Climate-smart and low carbon footprint approaches to livestock production, even on small household level scale, can contribute significantly to reducing emissions. Such approaches also help bring economic empowering CSA options to women in poor households as well.

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The Native Pig Project in the Guinayangan Quezon Climate Smart Village was the subject of the following CCAFS supported projects:

- Generating evidence base for upscaling local adaptation through Climate-Smart Agriculture (P55)
- Gender sensitive CSA options trialed and tested in CSVs, and business case development for scaling (P1596) - ongoing

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