

Evaluation of resource based pig feeding and management system in households of North Eastern India

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Introduction

- Pig is one of the most important livestock (13.5mn)
- Pig rearing
 - ✓ socio culturally interwoven with people's life
 - ✓ major source of income of livelihood of resource poor people belonging to lower economic group.
 - ✓ low or zero input utilizing locally available resources
 - ✓ Can act as medium for improving socioeconomic status of the weaker section of the society.
 - ✓ Gender empowerment
- Pork -10.5% of total meat production in India
- Estimated annual requirement of pork 824 thousand tonne

NORTH EAST INDIA

Comprised of	: 8 states
Area	: 26.12 mn ha (8.3% of total)
Net cultivated area	: 12%
Total population	: 39.08 million
Climate	: Subtropical to alpine
Rainfall	: 2000 mm (Av)
Common Features	: Ecosystem diversity, Poor accessibility, multi ethnicity and rich biodiversity.
Primary sector	: Agriculture (45% contribution to economy)

Introduction (contd.)

- Pig- 1.41% of world population (13.52million)
- NE region- about 28% of total pig population in India
- Growth rate of pig population- 5.71% per annum
- Av. pork yield- 55Kg/pig
- The density of pig population- 5.8-32.3 per100 people
- Pig constitute 39.97% of total livestock (all India- 2.97%)
- Every tribal household rear 1 or 2 pigs in backyard
- Pig production is synonymous with livestock production in NE region
- Number of Pigs available/100 Person
 - India – 04
 - NE region – 18

Objective

- To document pig husbandry practices at farmers field in the North eastern India

The survey was necessitated by:

- availability of limited information
- for development of strategies for sustainable pork production system

Major observations of the study

- Most of the pig farmers maintained 1-3 gilts/sows and 1-2 castrated males.
- Farmers mostly rear fattener pigs
- Inbreeding is practiced by the farmers
- Litter size - birth 4-8 piglets: weaning-2-6
- Farmers practice scavenging system
- Preference for black skinned pigs

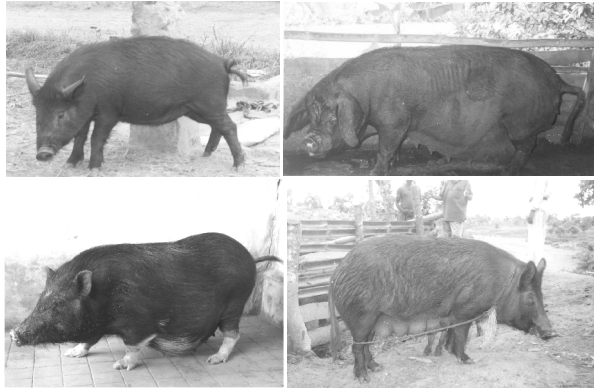
Study methodology

- Visit to 325 pig rearing households in 8 states of NE region of India
 - Interviews with farmers
 - Collection of feed materials
 - Measurement of dimensions of houses, animals
 - Data analysis
- Corroboration with secondary data/findings of other line agencies

Major observations of the study

- Most of the pigs reared-local or cross bred- absence of systematic breeding
- Pigs fed with locally available feed materials - rice bran, wheat bran, left over rice and vegetables, tubers, rice/millet beer waste (*jugli, chang*) etc.
- Pigs houses made of locally available materials
- Diseases of parasitic, bacterial and viral origin
- Pig farming- unorganized venture

PIG STRAINS REARED



Feeding and management

Housing

- Scavenging, tied with rope or intensive
- Floor- cement (23%), Muddy (45%) and wooden (32%)
- Roof-thatched (27.7%), galvanized sheet (54%)
- Area/animal-0.74 to 1.58m² (Av.1.18m²)
- Generally the houses are constructed 10-70cm above ground

PIG STRAINS REARED



Gungroo pigs

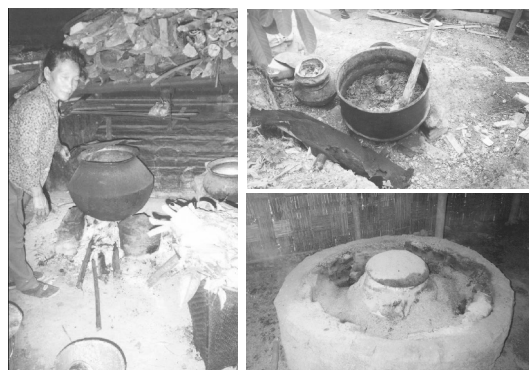
Housing of pigs



Housing of pigs (Contd.)



Feeding of pigs



Feeding

- Feeding 75-80% of rearing cost
 - Local ingredients principally fed- (94%)
 - Consists of leaves, fruits, tubers, roots, bran, rice beer waste/ brewery waste etc
 - Av. daily ration- boiled 5-8Kg feed
 - Feed – CF-32% ; CP-6-10%; DM-15%
- Composition of local ingredients has been documented
- Cassava, sweet potato and plantain fruit are potential feed resources
- Traditionally fed pigs at lower plane of energy and protein nutrition
- Most of the animals fed twice a day (70%) and stall fed (70%)
- Major sources of water-Pond (52.12%) and stream (30.30%)

Feeding of pigs (Contd.)



Traditional feeding of pigs

Collection of feeding material
(kitchen waste, roots and tubers, leaves, brewery waste etc.)



Cutting into pieces and cooking



Feeding of pigs

Reproductive traits

Parameters	Mean \pm SE
Litter size at birth (LSB)- nos.	6.59 \pm 0.24
Litter weight at birth (LWB)-kg	4.32 \pm 0.28
Litter size at weaning (LSW)- nos.	4.27 \pm 0.43
Litter weight at weaning (LWW)-kg	18.16 \pm 1.16
Age at First Fertile Service -days	160.31 \pm 2.72
Age at First farrowing -days	256.46 \pm 5.58
Gestation period -days	113.18 \pm 0.25

Das *et al.* 2006

Reproductive management

- Oestrus detection based on symptoms
- Natural service is practiced under field; Some organized and Government farms use AI.
- Availability of boar is severally constrained and cost of fertile mating costs between Rs500-1500 (Euro 7.5 to 22)
- Several reports of early sexual maturity in indigenous male pigs

Health practices

- Major parasitic, bacterial and viral diseases documented
- Source of vaccine-Government department
- Lack of early disease diagnosis system
- Disease treated by local Veterinarians
- About 20% of the animals are only vaccinated
- No feed additives

Pork production systems

- Source of pigs-local market, Govt/ICAR/Private farms
- Marketing
 - Mostly fattener pigs are directly sold in local market /middle men
 - Transport-cycle, truck, trolley, rickshaw, over head etc
- Pork products production
 - Most of produce sold as fresh meat
 - A part of pork converted to pickle, dried pork or smoked pork

Slaughter and pork processing



Local transportation of pigs



Pork Marketing

- The slaughter process begins before dawn and the pork is ready for marketing by 6.00 to 7.00 AM.
- Pork and offal are sold in the same price (about Rs.70 to 150/ Kg; Euro1.2-2.2/Kg).
- Value addition of pork:
 - Pickle
 - Smoked pork
 - Sausages
 - Salami
 - Kofta etc..



Carcass Characteristics

Characteristics	Range
Age at slaughter (d)	240-300 days
Carcass weight (kg)	30-45kg
Length (ft)	2.12-2.56
Dressing percentage	60-70
Meat : Bone ratio	2.3-2.5 : 1
Fat thickness (cm)	1.50 to 3.00
Lean %	60.0 to 70.0
Fat %	28.0 - 40.0
Feed conversion efficiency	2.5 to 4.0

Constraints faced by piggery sector

- Low productivity of indigenous livestock.
- Non-availability of superior germplasm.
- Lack of systematic breeding programme.
- Reduced availability of quality feed.
- Higher feed cost.
- Inadequate extension service.
- Poor health care management.
- Non availability of organized market.
- Unorganized slaughter house.

Average economics of pig farming (per pig)

Expenditure		Income	
Cost of piglet	Euro 21.74	Sale of pork	Euro 98.91
Feed	Euro 28.99	Offals	Euro 10.87
Management	Euro 36.23	Bristle and other residues	Euro 5.00
Total	Euro 86.96	Total	Euro 114.78

Profit per pig- about Euro 27.82

Opportunities in pig rearing

- 2.2% annual growth rate and its role in protein nutrition
- Ability of the pig to survive under adverse conditions
- Promoting pork industries for regional and export market due to high demand
- Pig based integrated farming system
- Scope to encourage *Jhumia* family towards settled cultivation through pig based farming
- Employment generation and poverty alleviation
- Organic pork production

Thank you for the attention

