

**BREEDING CHALLENGES FACED BY SMALL
HOLDERS AND NEED FOR ACCESS TO
IMPROVED GENETICS**

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INTRODUCTION

LIVESTOCK INDUSTRY IN AFRICA - OVERVIEW

Integral to Africa's economy - supports the livelihoods of 80% of the population (FAO, 2005).

The livestock industry in Africa is expected to grow, driven by;

- ❖ Population growth – 2.3 billion by 2050
- ❖ Increased incomes thus change in consumption patterns – 7/10 fastest growing economies are found in Africa
- ❖ Urbanisation – over half of the population will be living in urban areas by 2050

Millions of livelihoods directly depend on smallholder livestock production activities.

Livestock farming systems exist across a wide range of cultures and landscapes hence varied farming systems: land access, cropping, livestock breeds, off-farm activities, socio-cultural traits, access to markets, and livelihood orientations.

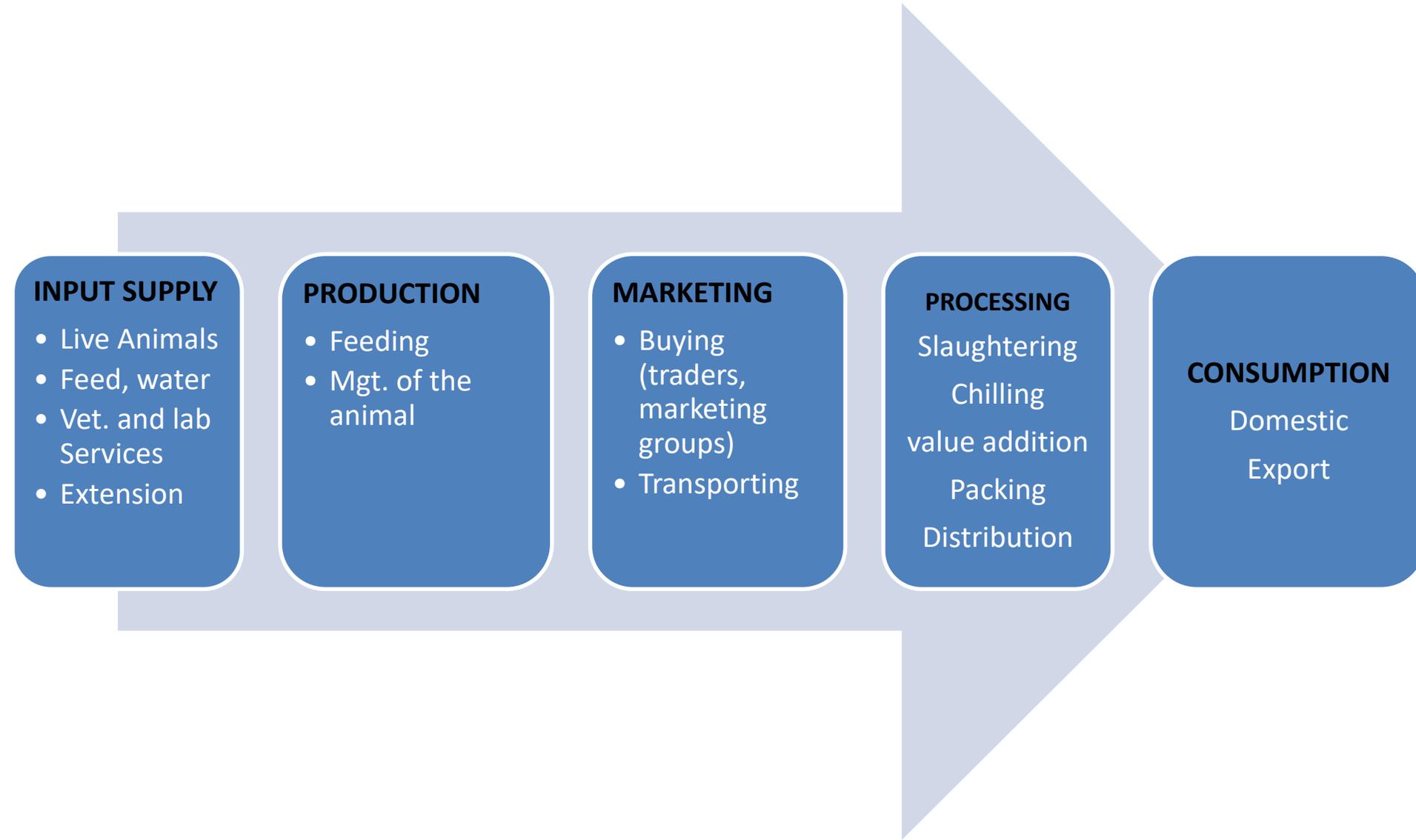
SMALL HOLDER FARMER – DEFINITION

A producer who rears livestock on a limited scale

- Family owned land enterprise
- Majority operating on less than 5 acres of land
- Retain a portion of their production for own use and sell the rest
- Produce up to 35% of the worlds food and 80% in SSA

INDUSTRY STRUCTURE

Key Players – producers, service providers, feed millers, abbatoirs, processors and retailers

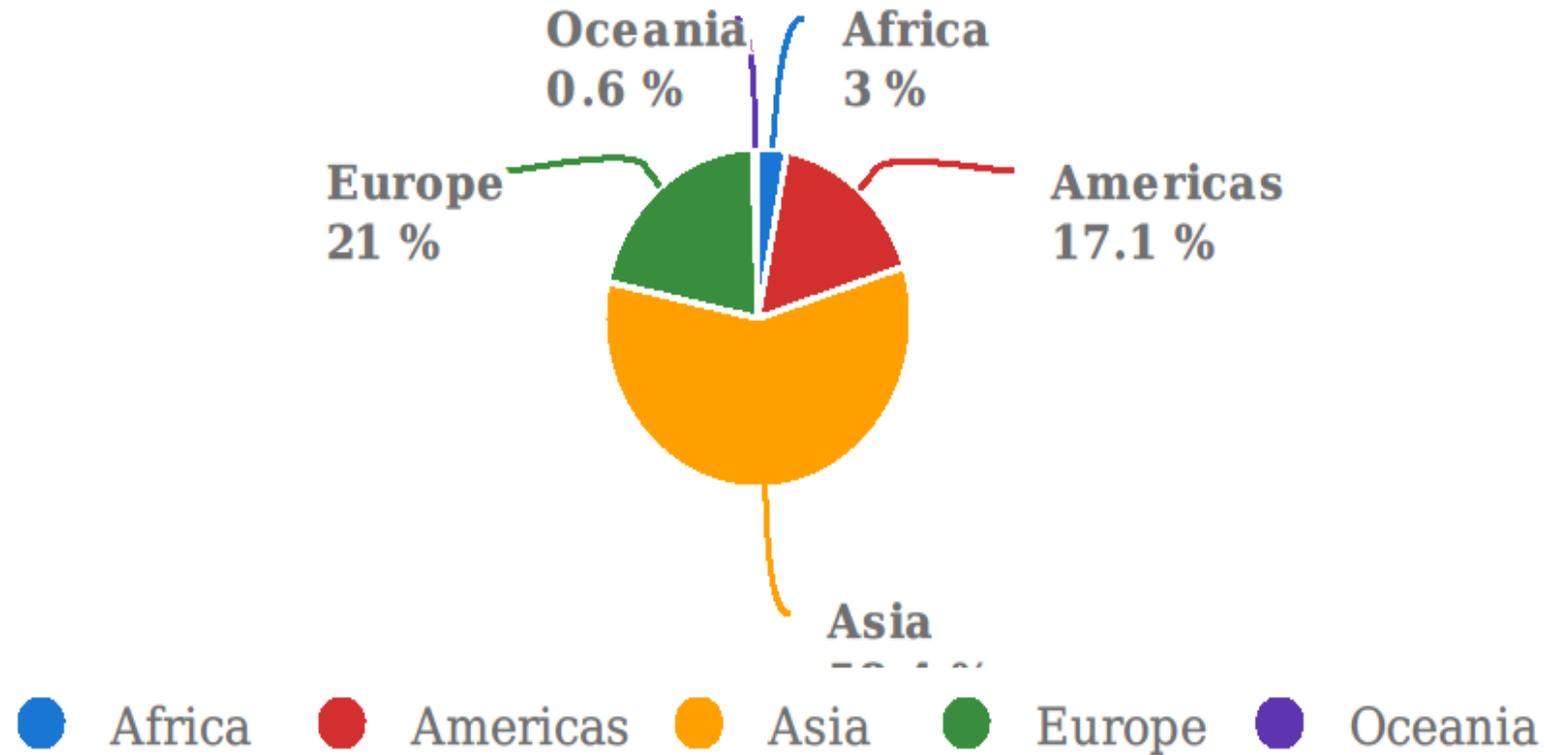


	Thousand tonnes			% change	Annual Growth rates		
	2010	2030	2050	2010 - 2050	2010 - 2030	2030 - 2050	2010 - 2050
Beef	467	734	1277	173%	2.28%	2.81%	2.55%
Poultry	4839	7513	13298	175%	2.22%	2.90%	2.56%
Mutton & goat	87	103	127	46%	0.89%	1.02%	0.95%
Pork	13	29	48	268%	4.14%	2.49%	3.31%

consumption of meat and long term projections. Source:
FAO projections, Acosta and Felis (2017)

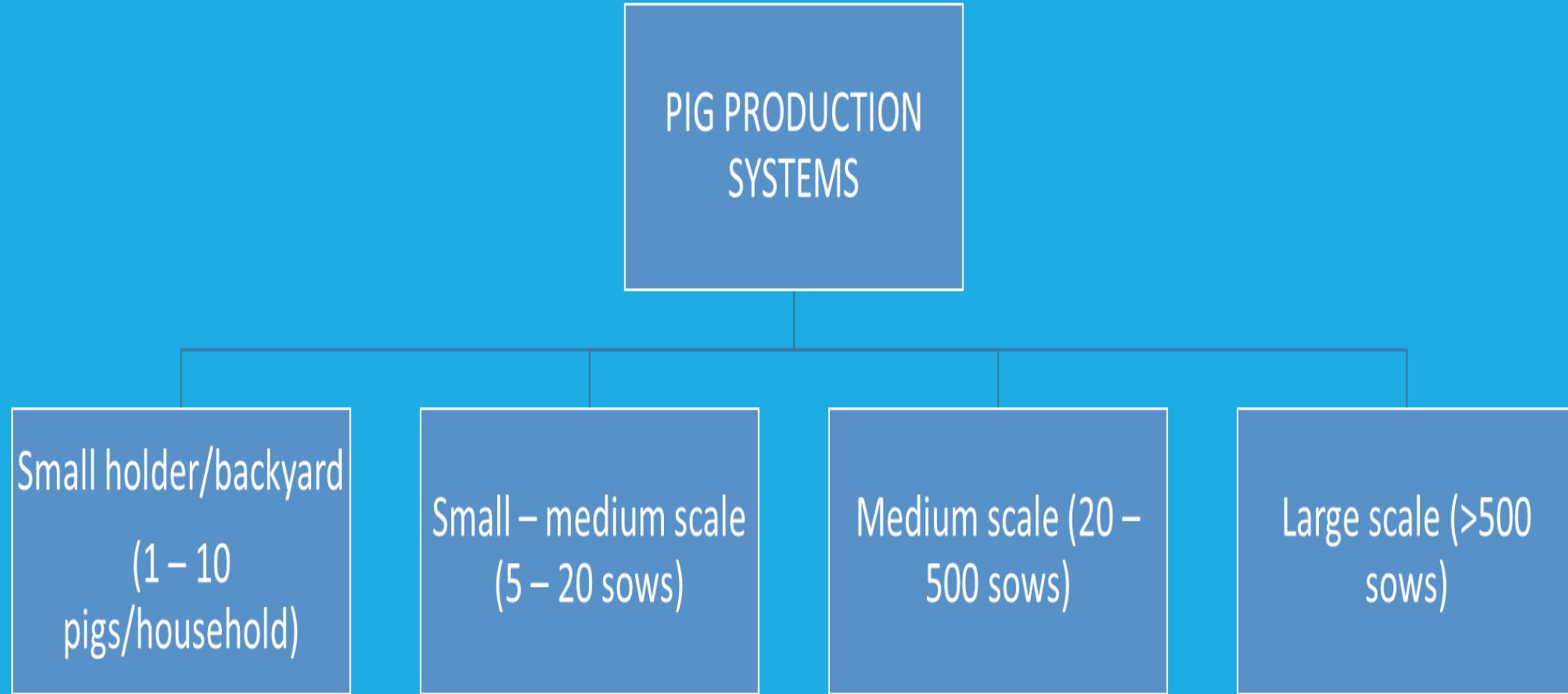
Production share of Pigs by region

Average 1994 - 2019



Source: FAOSTAT (May 22, 2021)

PIG PRODUCTION SYSTEMS



CHALLENGES

1. Urbanization and Population growth

Population growth and urbanization go hand in hand with increased meat and dairy consumption amongst the sub-Saharan demographic. While the population increases, the average farm size decreases, land distribution becomes more concentrated which leads to constraints in production particularly for smallholder farmers.

2. Land pressures and land degradation

Changes in land tenure from communal to private ownership has led to restricted mobility for livestock farmers especially. Poor land management, leads to soil degradation, lack of water sources that are necessary for proper animal management. Adaptation of land management practices is low thus the increase in land degradation.

3. Climate Change

Predicted increase over the years in temperatures and decrease in precipitation in SSA has played a key role in animal breeding challenges as lack of rain and severe drought leads to low production of meat, milk and dairy products.

4. Agricultural research and development

The portion of farmers accessing extension advice is low, while extension services tend to favour wealthier farmers. Recent data show that in most African countries government investments are below the levels required to sustain agricultural research and development needs. Consensus amongst researchers in sub-Saharan Africa shows that increase in Government intervention in the Agriculture sector will help with the GDP growth and significantly improve smallholder farmer's lives but the commitment by these government agencies is still weak.

ESTABLISHMENT OF FUNCTIONAL/SUCCESSFUL BREEDING PROGRAMMES REMAINS A CHALLENGE FOR SMALL HOLDER FARMERS AS PAST GENETIC IMPROVEMENT EFFORTS HAVE FAILED DUE TO:

Dependence on breed replacement and indiscriminate cross-breeding of native with exotic breeds with no plan on how to maintain suitable exotic blood levels and no selection of the dam line.

Incompatibility of introduced genotypes with producers breeding objectives, management practices and environmental conditions.

Lack of comprehensive approach to design simple but effective breeding strategies instead of adapting complex breeding programmes that require many logistics and technologies

Insufficient or no systematic breed evaluation studies ensuring fair comparison of the relative merit of indigenous and exotic breeds under typical environment considering the role of Gene interaction.

Feed scarcity

Lack of animal housing

Animal disease

Lack of farmer knowledge and organisations

Lack of information and direct access to markets

Lack of proper finance and credit

Lack of political good will

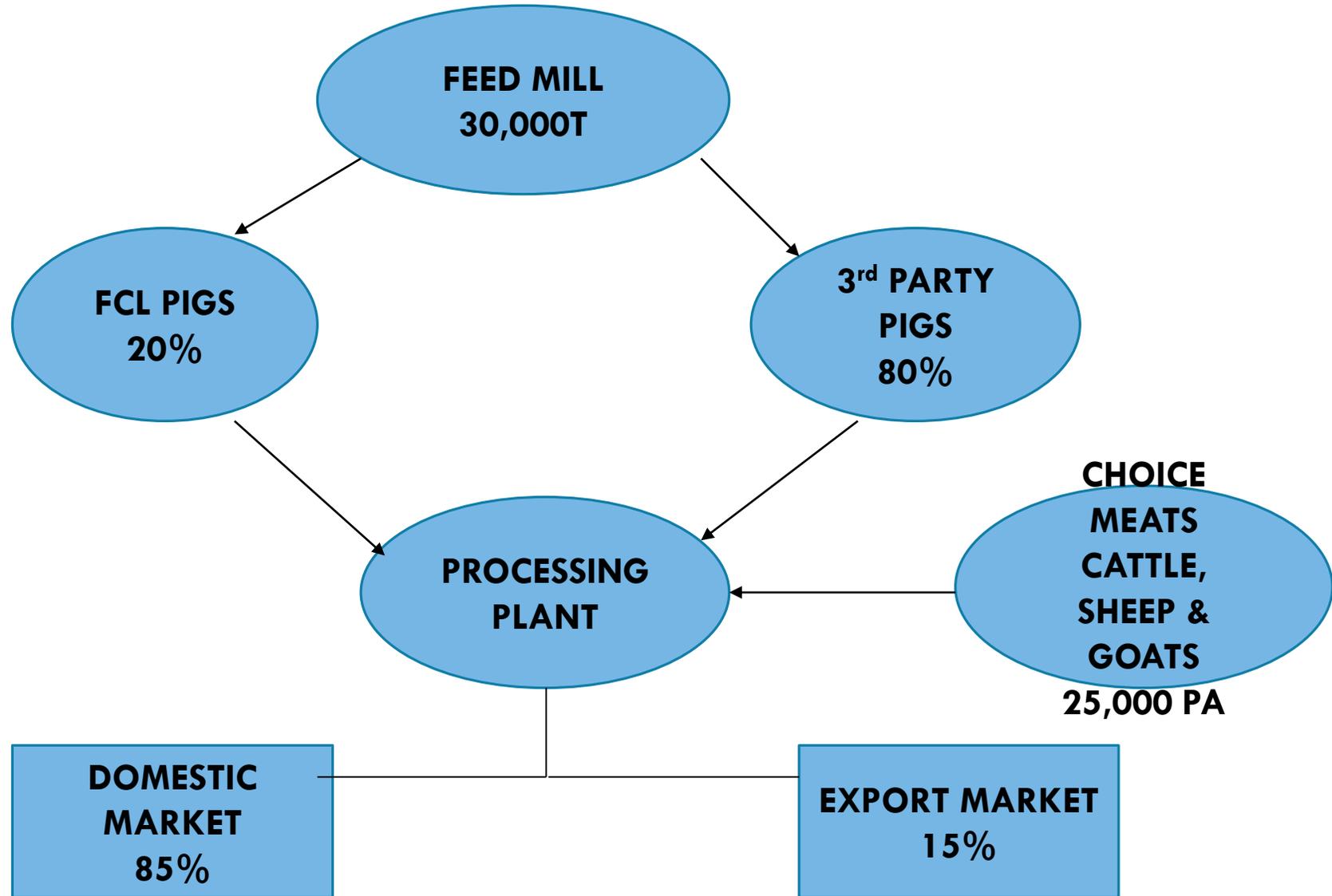
SMALL HOLDER PRODUCTION

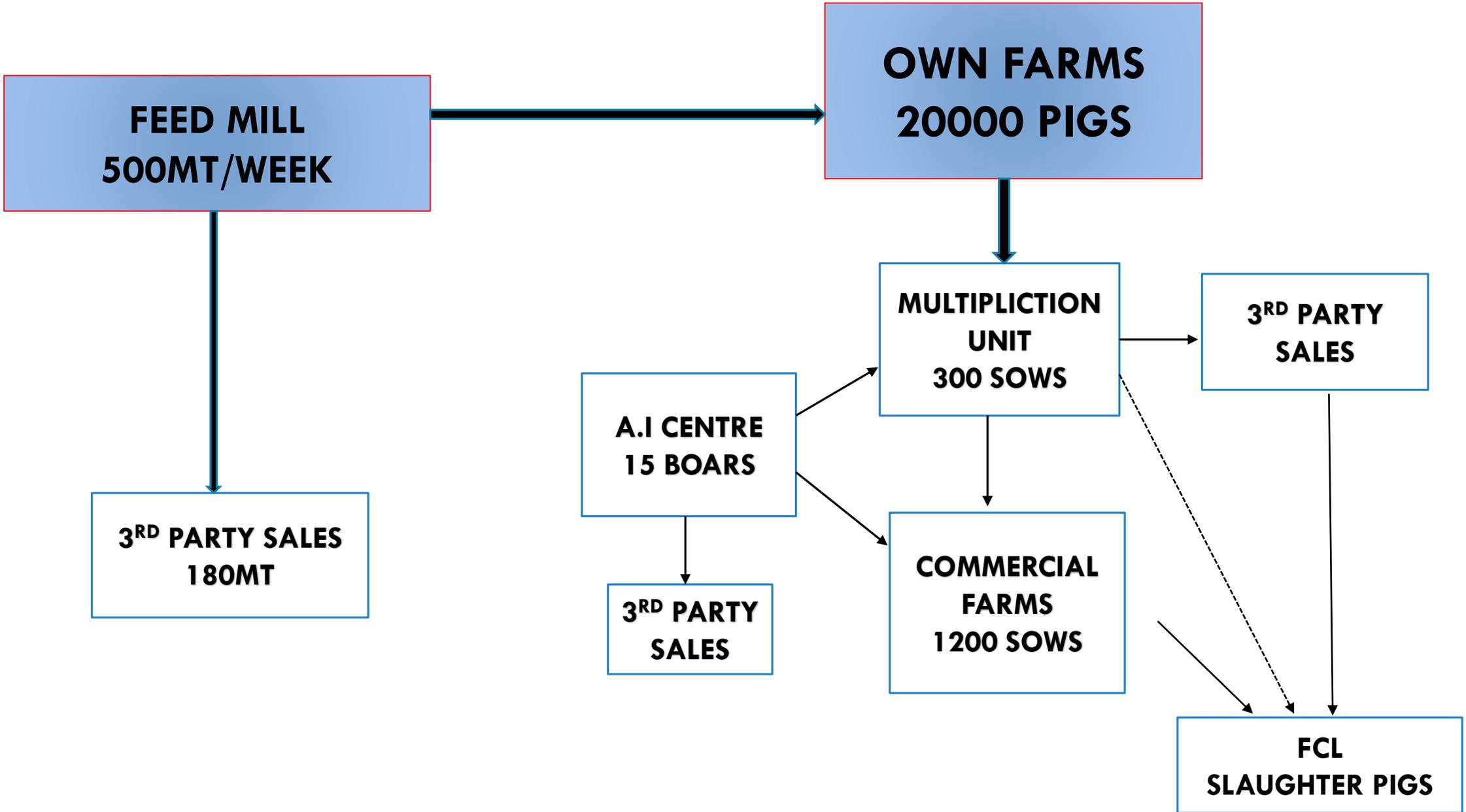


LARGE SCALE PRODUCTION



FARMERS CHOICE LTD





**FEED MILL
500MT/WEEK**

**OWN FARMS
20000 PIGS**

**3RD PARTY SALES
180MT**

**A.I CENTRE
15 BOARS**

3RD PARTY SALES

**MULTIPLICATION
UNIT
300 SOWS**

**3RD PARTY
SALES**

**COMMERCIAL
FARMS
1200 SOWS**

**FCL
SLAUGHTER PIGS**

A.I CENTRE

4 Maternal line boars and 11 terminal line boars – PIC

Semen collection, quality analysis, packaging, storage and distribution.

Producing an average of 200 doses of semen weekly.

❖ *Traits - Prolificacy, efficiency, robustness, conformation, longevity, temperament, mothering ability, high health status, growth rates, feed intake & FCE, ADG, high kill out % and carcass yields, maximum hybrid vigor & hardy*



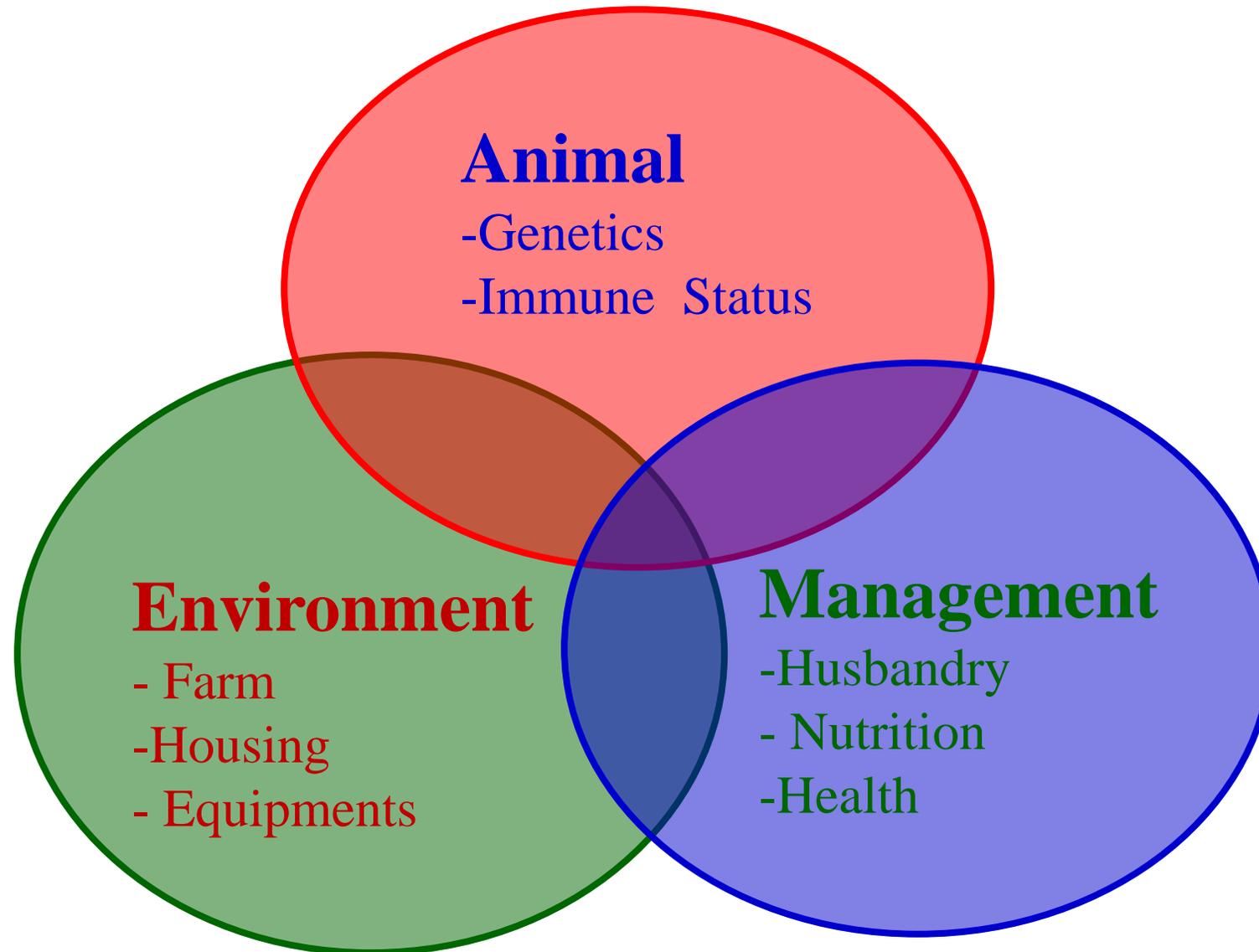
NEED FOR ACCESS TO IMPROVED GENETICS

The biggest contributor to profitability for a livestock production system is sustained genetic improvement and the speed with which it is incorporated into all levels of production

Small holder livestock farming is characterized by low productivity thus Promotion of smallholder livestock improvement programs is key to improving food security and livelihoods in Africa and the world at large.

Any successful intervention must address all the production factors associated with smallholder livestock production.

WHAT WILL SUCCESSFUL INTERVENTION ENCOMPASS?



THANK YOU

