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An overview of swine production and marketing value chains, West and Central Africa



**Regional training course (Africa)
Import risk analysis for African swine fever
23 November 2021**



**Organisation
Mondiale
de la Santé
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**World
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for Animal
Health**

**Organización
Mundial
de Sanidad
Animal**

Introduction to pig value chain in West & Central Africa



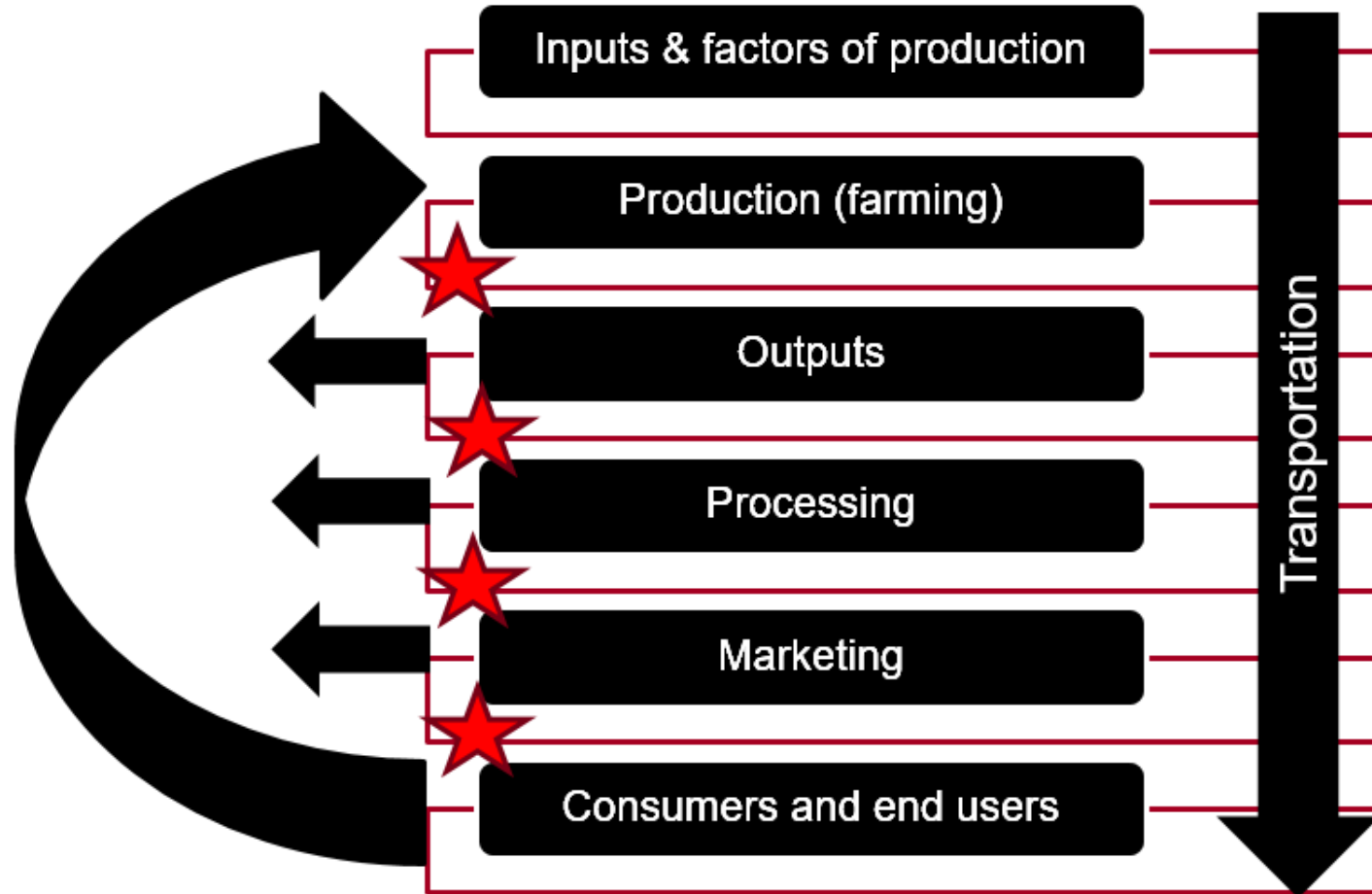
- Pig production is largely smallholder activities with scattered commercial activities in many parts of West and Central Africa.
- Largely subsistence and semi-commercial activities, although these may be scaled-up to commercial activities.
- Pig management/husbandry is often combined with crop production, other livestock farming or trading/slaughtering activities
- It contributes significantly to women and youth empowerment in the rural & peri-urban settings.
- Pork value chain includes: Input supplier, middlemen, traders, transporters, butchers, farmers, assemblers and brokers etc.
- Pigs are slaughtered for home consumption, income source/livelihood, school fees, medical bills, fertilizer purchase, debt recovery, marriage, measure of wealth, cultural activities, potential bank/savings and emergency funds.
- Local and regional trades predominate and little or no pigs are officially exported from West and Central Africa.

Introduction to pig value chain in West & Central Africa



- Marketing of live pigs at popular live animal markets (LAM), auctions, slaughter slabs and exchanges are common among smallholder producers. Large scale producers target more formal markets, supermarkets and companies
- Ante-mortem inspections are hardly conducted except for pigs slaughtered at government recognised slabs and abattoirs.
- LAM can be primary/collection markets, secondary/regrouping markets or terminal market.
- Standardized pricing is often difficult especially where farmers can not organise into cooperatives.
- Pricing is highest at some period of the year (Christmas, New year, after the scourge of ASF) and lowest at other time (beginning of school year, during ASF outbreak, when supplies outstrip demands, beginning of crop farming season)

Main components of the pig value chain



The pig industry creates multiple opportunities for employment, livelihoods upscaling and commercialization

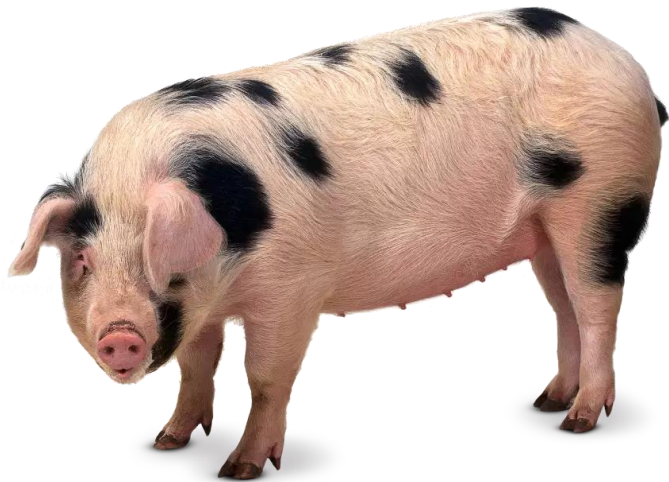
Input Factors

Pig Demographics, West and Central Africa

Countries	Estimated pig population	Source
Benin	520,805	FAOSTAT, 2019
Burkina Faso	2,587,862	FAOSTAT, 2019
Cabo Verde	68,907	FAOSTAT, 2019
Cameroun	1,960,026	FAOSTAT, 2019
Central African Republic	1,125,637	FAOSTAT, 2019
Chad	117,171	FAOSTAT, 2019
Congo	112,025	FAOSTAT, 2019
Cote d'Ivoire	349,626	FAOSTAT, 2019
Democratic Republic of Congo	995,584	FAOSTAT, 2019
Equatorial Guinea	7,005	FAOSTAT, 2019
Gabon	222,792	FAOSTAT, 2019
Gambia	14,500	FAOSTAT, 2019
Ghana	768,000	FAOSTAT, 2019
Guinea	147,209	FAOSTAT, 2019
Guinea Bissau	417,564	FAOSTAT, 2019
Liberia	396617	FAOSTAT, 2019
Mali	86,182	FAOSTAT, 2019

Pig Demographics, West and Central Africa

Countries	Estimated pig population	Source
Niger	43,147	FAOSTAT, 2019
Nigeria	8,001,217	FAOSTAT, 2019
Sao Tome	38,560	FAOSTAT, 2019
Senegal	465,543	FAOSTAT, 2019
Sierra Leone	251,345	FAOSTAT, 2019
Togo	1,085,484	FAOSTAT, 2019



Input/output and factors of production



Inputs

- Genetics,
 - Nutrition and feeding,
 - Housing conditions, and
 - Animal health
- *Feed shortage, poor access to veterinary services, and poor market linkage are major limitation*
- *Poor investment, inadequate extension education, poor farm management, insufficient credit facilities and subsidies, and high mortality rates in piglets and cannibalism*

Outputs

- Live pigs (adult)
- Pork
- Piglets
- Manure
- Biofuel



Production Systems



- Free-range (scavenging) Extensive system
 - Poor genetics,
 - Low-inputs (feed, housing, veterinary services, etc.),
 - Low investment,
 - Mostly rural, peri-urban and backyard.
 - High mortality rate due to diseases,
 - Slow growth rate due to poor feed conversion,
 - Low off take, low reproductive rates.



Example of free-range production system. A. Backyard type; B. Compound type



Free-range/extensive pig production system.



- Semi-Intensive system
 - Improved genetics,
 - Provision of some inputs (feed, housing, veterinary services, etc.),
 - Medium investment,
 - Mostly peri-urban, urban and backyard.
 - Low mortality rate due to diseases,
 - Medium growth rate due to better feed conversion,
 - Better off take, medium reproductive rates.



Example of semi-intensive pig production system.



- Intensive system
 - Improved genetics,
 - Provision of complement of inputs (feed, housing, veterinary services, etc.),
 - High investment, may be vertically integrated,
 - Mostly peri-urban and urban,
 - Very low to low mortality rate due to diseases,
 - Fast growth rate and reach market weight on target,
 - High off take, High fecundity.
 - Biosecurity and sophisticated equipment



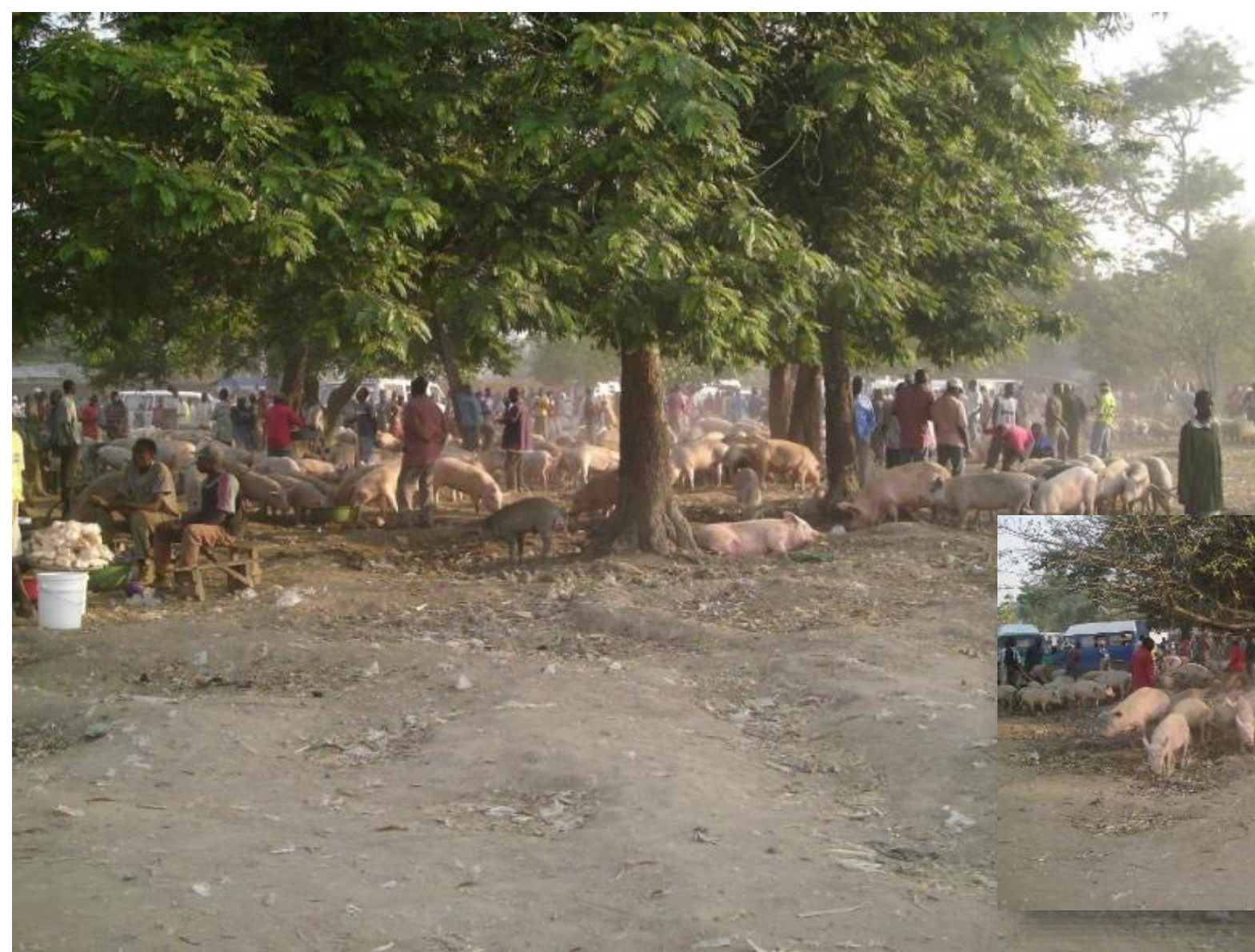




Marketing & Processing

Live Animal Markets

- For wholesales/retails
- Primarily oligopolistic
- Informal/formal
- Largely unorganised
- Consist of multiple stakeholders
- No grading of animals
- No price control
- Subjected to seasonal variations
- Lacks infrastructures for refrigeration, slaughter, hygiene, electricity
- Unstable in-and-out-migration from markets
- Challenged transport









Market view in the evening.

Pigs are either relocated to source or taken to the temporary holding facilities at night. Only few pigs (possibly owned in the neighbourhood) are allowed to roam at night.



Unorganised lairage/temporary holding facility keep multi-sourced pigs. *In some cases, unsold pigs may be returned to source farm or kept in a holding facility near the live animal market.*



Live pigs have access to slaughter floor with high risk of exposure to and infection with multiple pathogens



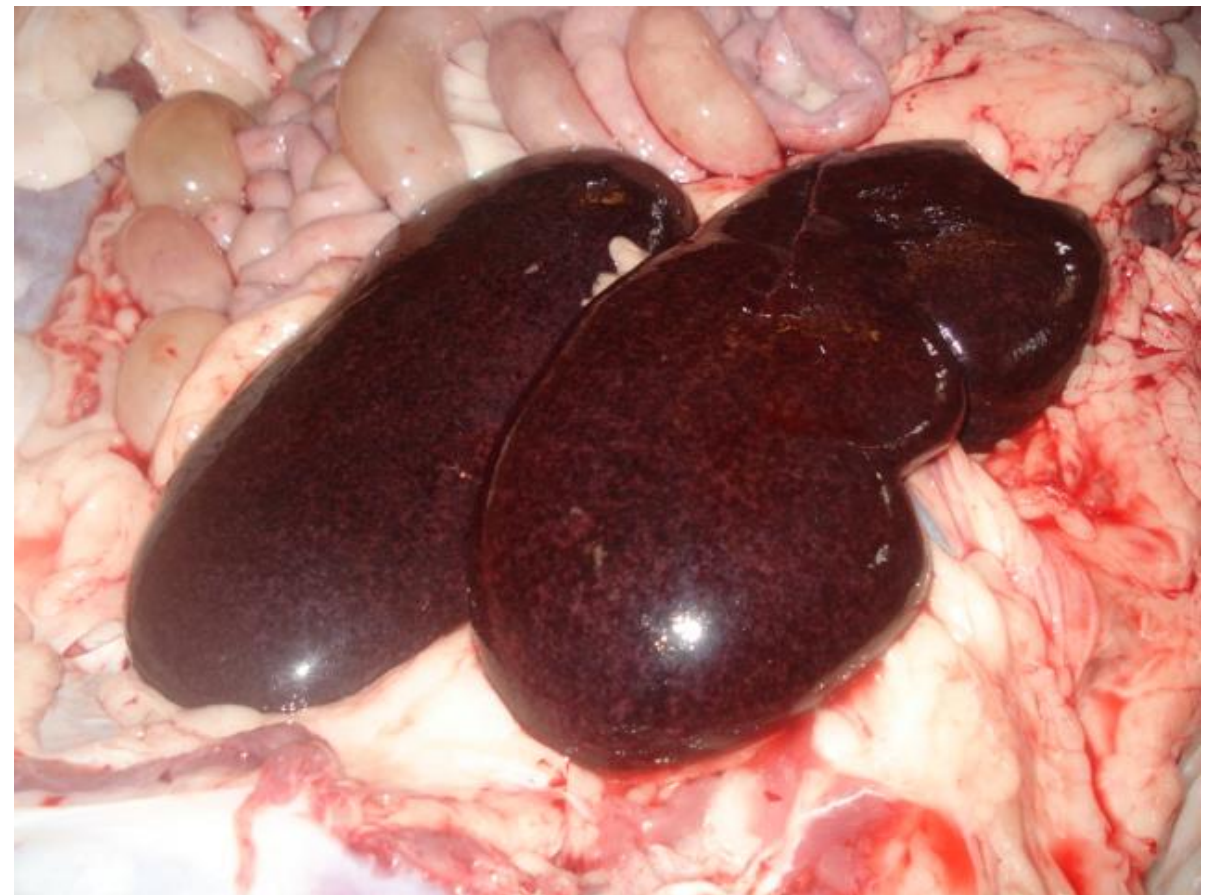
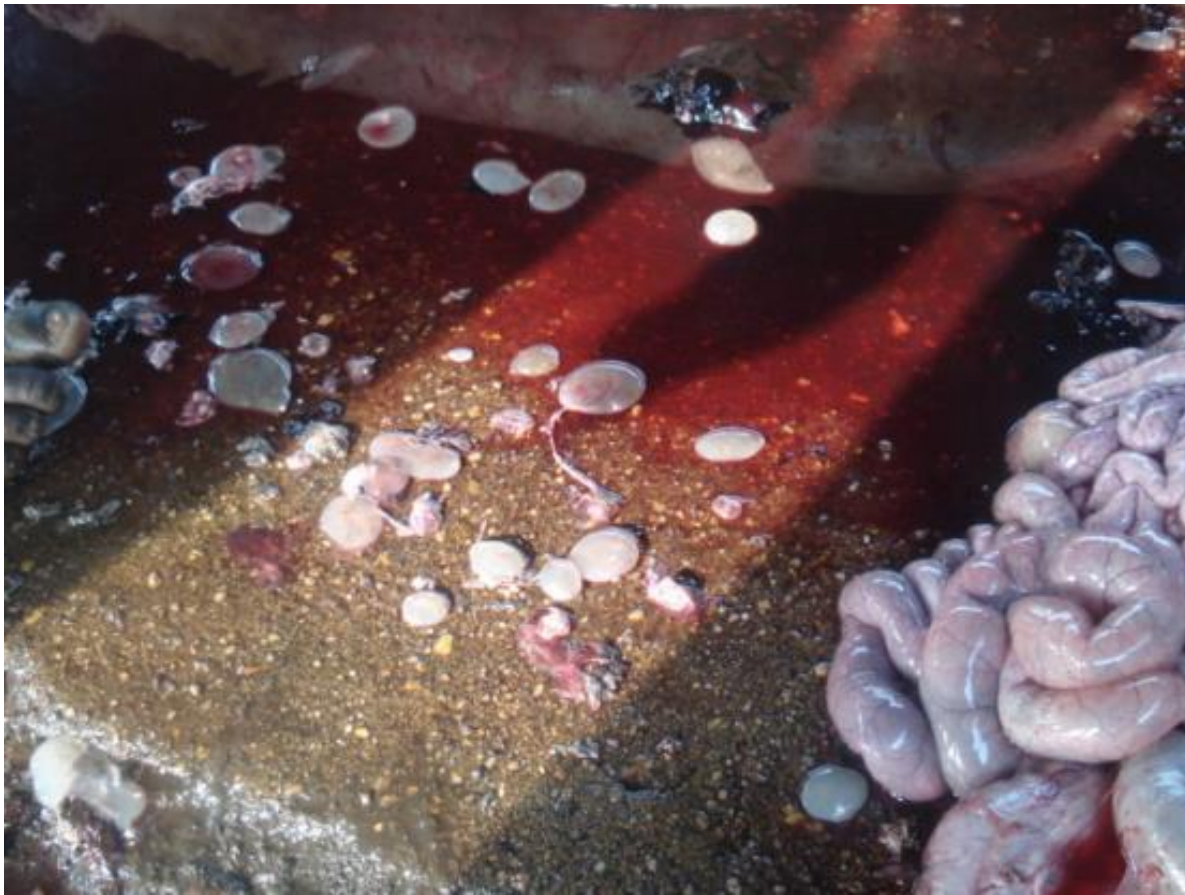


Unhygienic forms of meat processing.

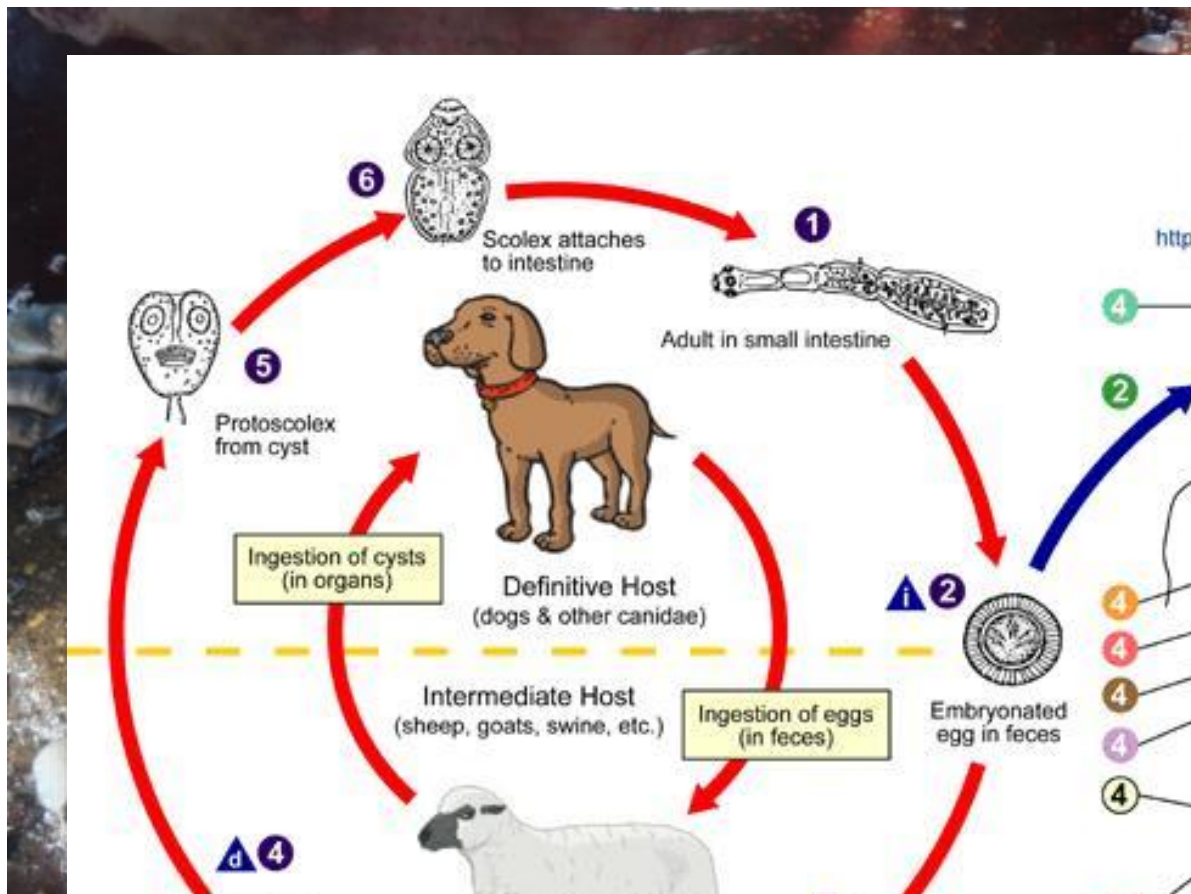
Hanging rails may/may not be available. Pigs are preferably processed on the floor.
No hot water container for knives. Access to multiple individuals and visitors granted.
Post mortem inspection may or may not be done.



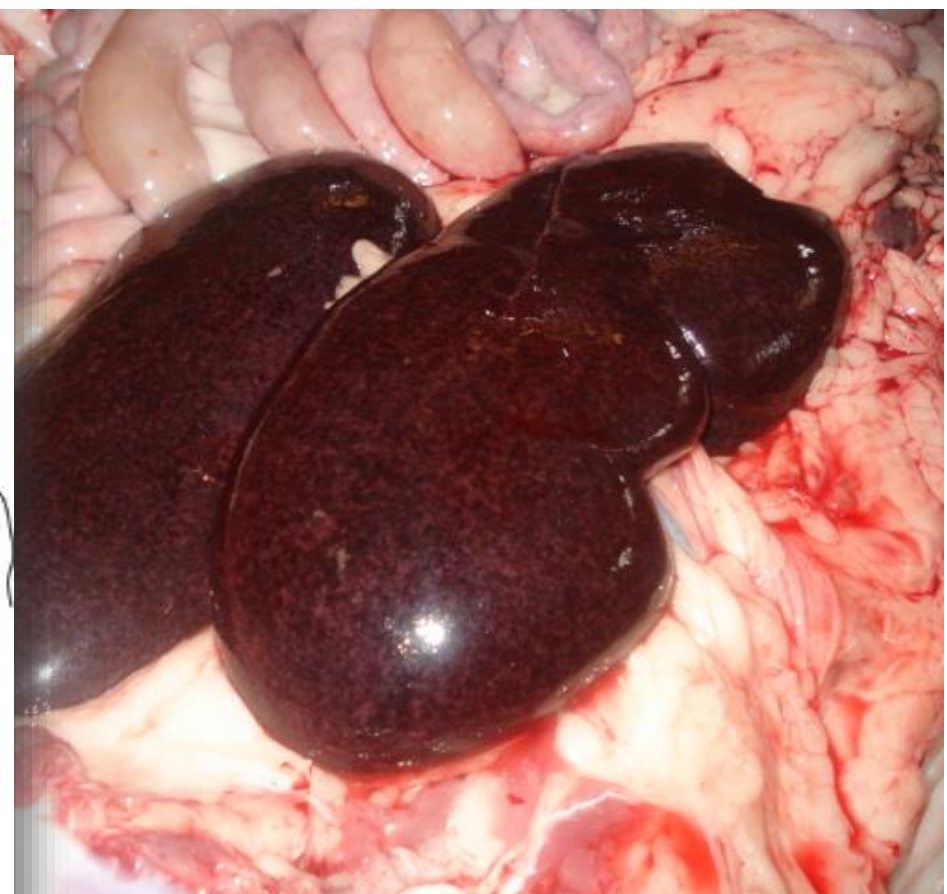
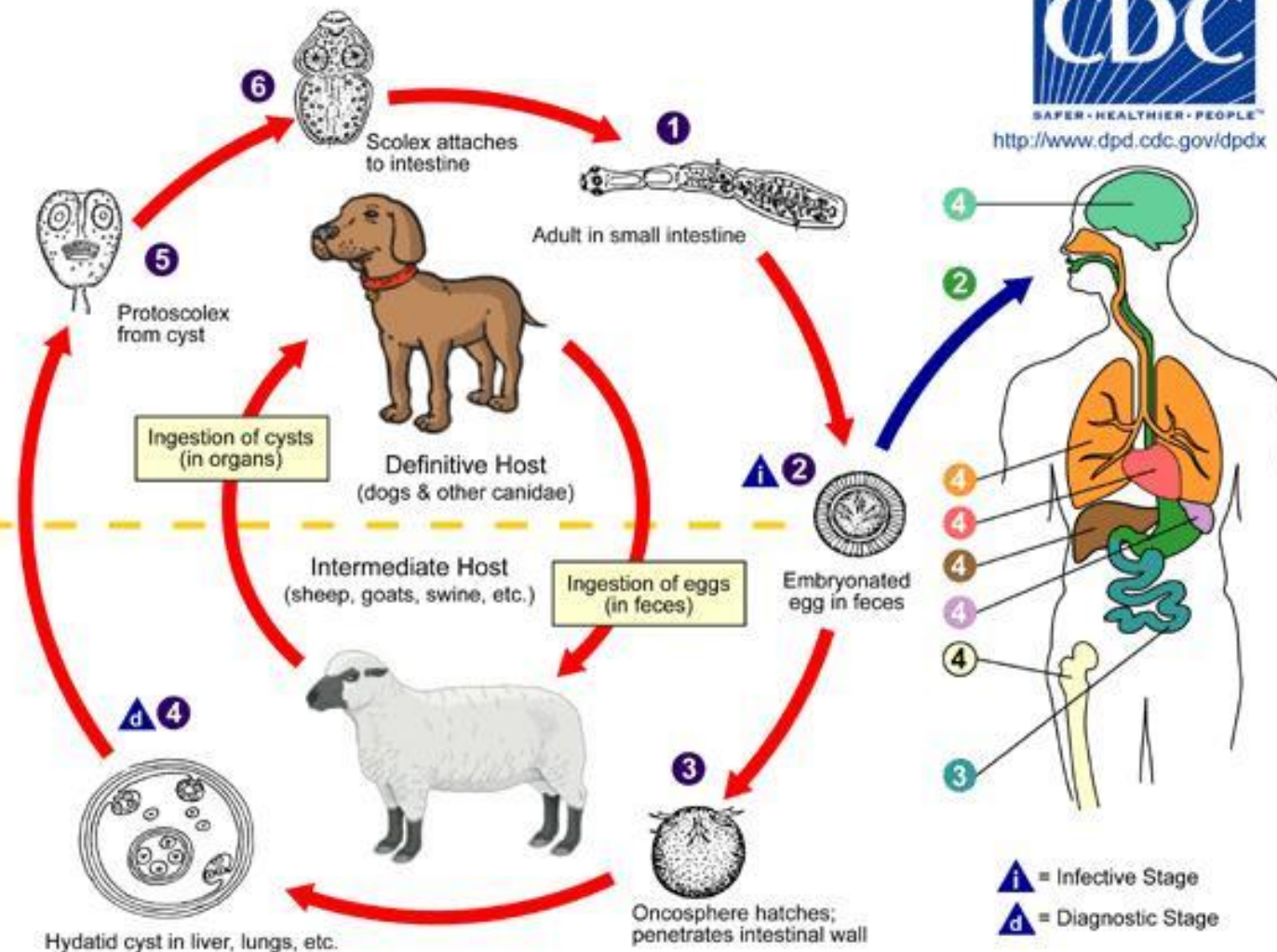
Carcasses can be packaged and sent to different market, or may be displayed on the open sales table near the slaughter facility.



Risk of disease introduction and transmission back to farm or human food chain is high from the processing facilities. Pictures above showed (a) hydatid cysts from slaughtered pigs which may lead to cystic echinococcosis in humans. (b) Splenicomegaly due to ASF virus infection. Farmers risk carrying the infective virus back to their farms inadvertently

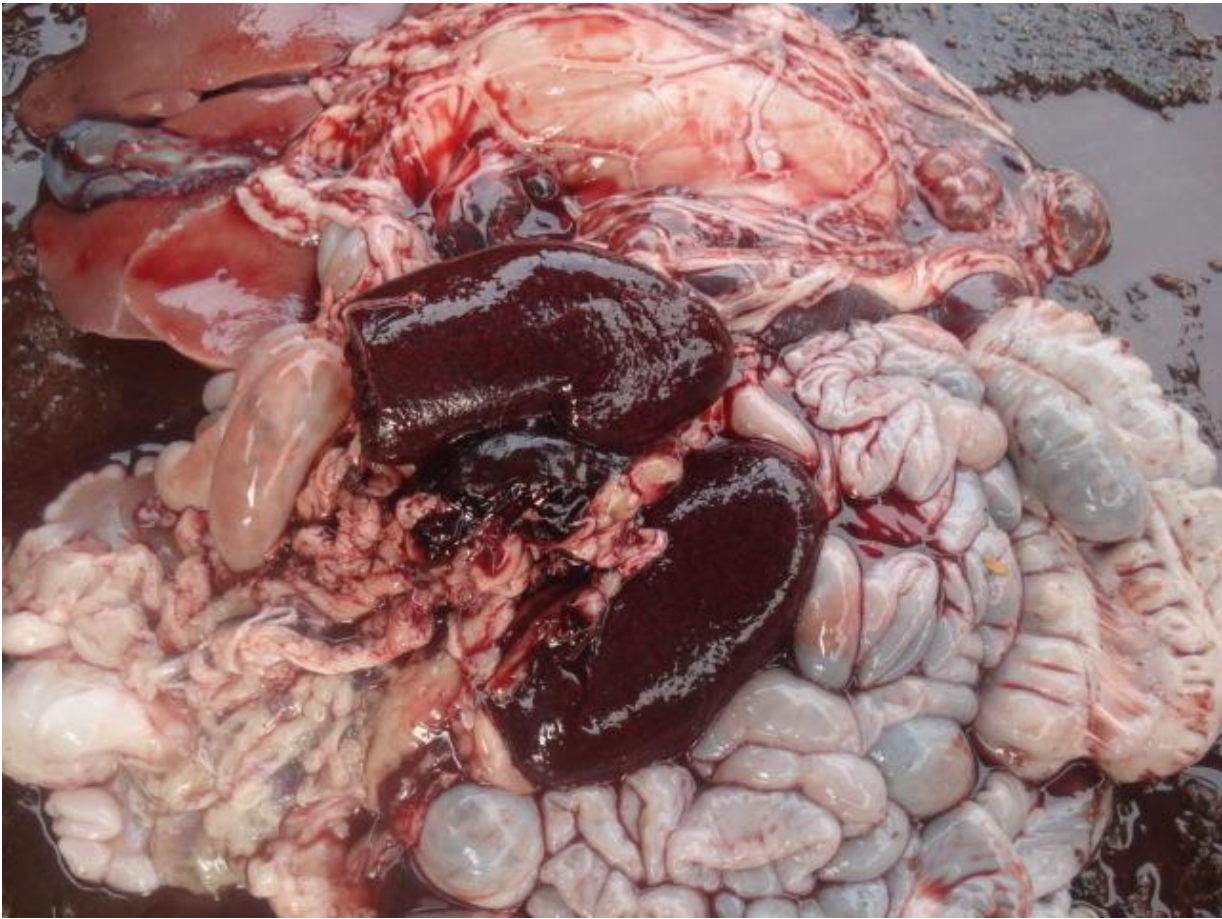


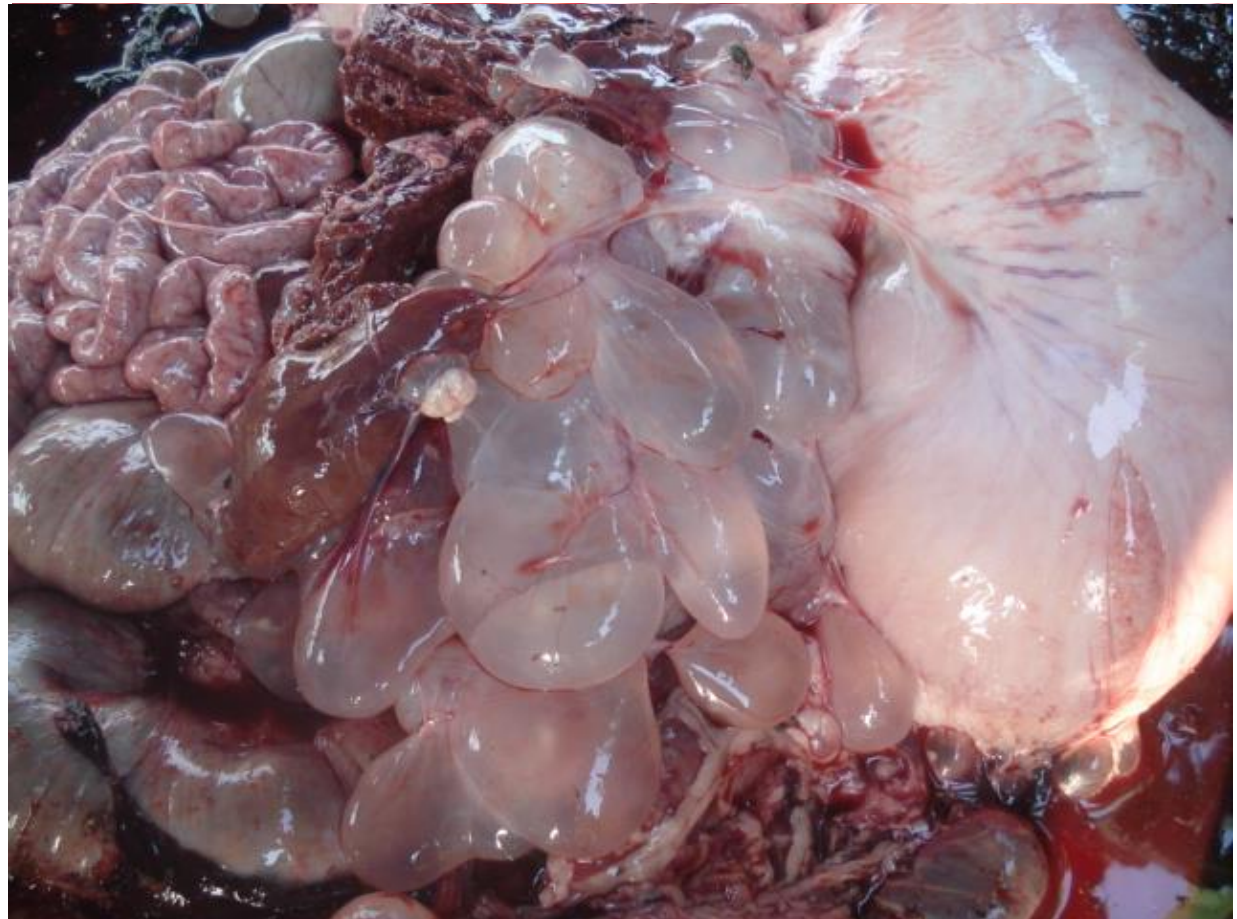
CDC
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<http://www.dpd.cdc.gov/dpdx>



Risk
pro
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back to their farms inadvertently

Human food chain is high from the
slaughtered pigs which may lead to cystic
on. Farmers risk carrying the infective virus







Unprocessed wastes from the abattoir are discharged into the drainages. *These have the likelihood of contaminating the carcasses meant for human consumption or flowing into the water sources and contaminating pig farms downstream.*



Refuse dump in the live animal market.
This serve as a source of environmental contamination, or infection of free-ranging pigs, thus maintaining disease in circulation.



Organised Processing & Markets



- In some situation, farmers have organised into pressure groups and cooperatives and have some forms of control in the slaughter, processing and marketing systems.
- They also carry out promotion for the products.
- The largest of such Cooperative in Africa is in Oke Aro pig farm settlement in Lagos/Ogun Nigeria

PIGGY PORK FIESTA
 28TH AUGUST, 2019
 MOUTH WATERING PORK DELICACIES
 Venue: Police College Field, Obu Akinjobi Way,
 G.R.A Ikeja, Lagos
 Time: 10:00am

*I am smart
I am healthy
I am clean*

Pork is Sweet *Pork, the real deal* *Pork is Ketogenic* *Pork Rules*

I Love Pork *World most consumed meat* *Pork is life* *Pork is Rich in Protein*

Pork is healthy *Put pork on your menu today* *Put pork on your Fork*

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The First Ever
IBADAN PORKIES FAMILY HANGOUT
 Network + Music + Games + More

DATE 1/10/2018 **PORK CARPET** 12 NOON

FREE Trans Amusement Park
 Sango-Ojoo Road, Ibadan, Oyo State,
 Nigeria (West Africa)

For Enquiries and Sponsorship
 Tobji 08039113232 | Gloria 08034234538
 Ben 08034123121

MAXIMUM SECURITY

free mouth-watering pork delicacies. eat until you drop out.

Promotion to improve pig consumption



Oke Aro
PORKIES
HANGOUT

MUSIC, GAMES & MORE

10-02-2018

Free Mouth Watering Pork Delicacies

VENUE: Big Shot Bar, Oke Aro Giwa Oke Aro Road,
Oke Aro Bus/Stop



OKE ARO PORKIES HANGOUT

MUSIC, GAMES & MORE

**PORK/BACON
MEAT**
Available



10-02-2018

Free Mouth Watering Pork Delicacies

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OKE ARO PORKIES HANGOUT

MUSIC, GAMES & MORE

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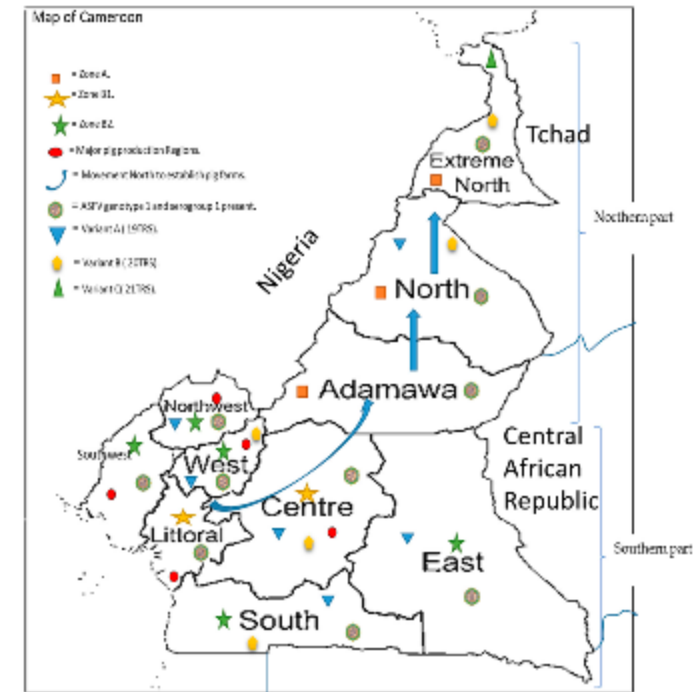
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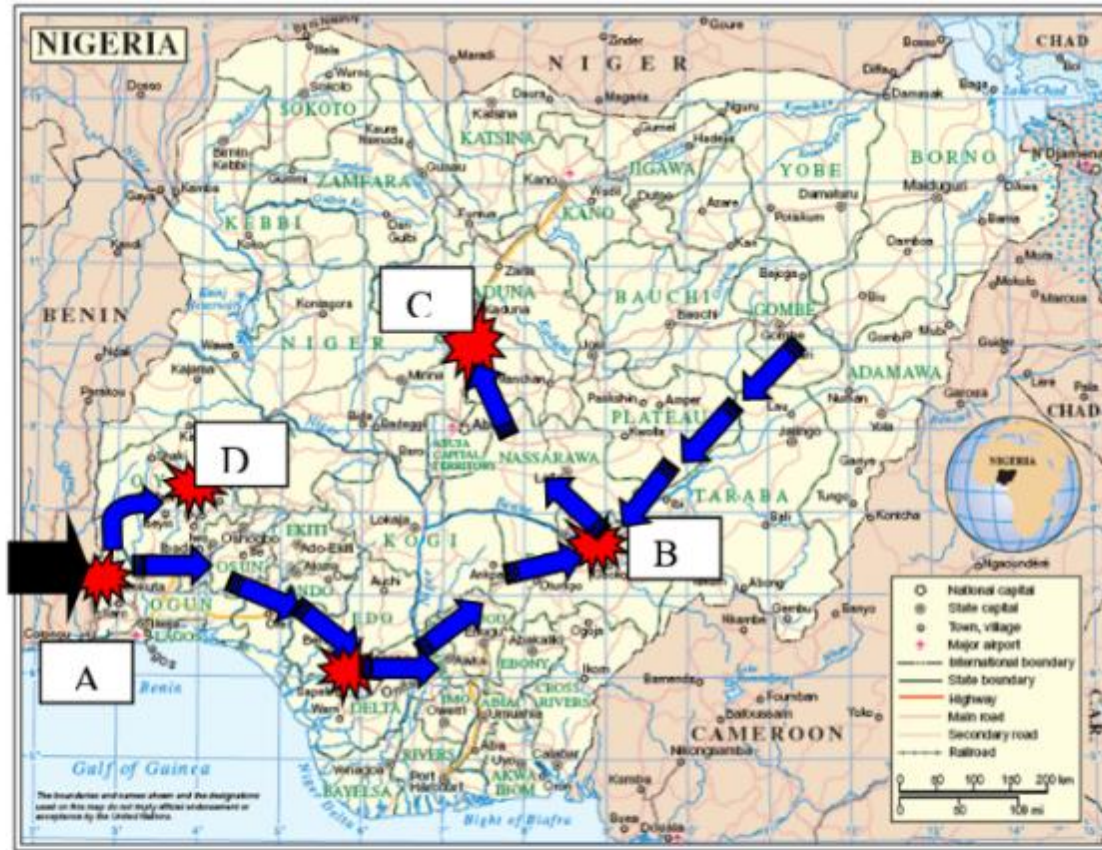
VENUE: Big Shot Bar, Oke Aro Giwa Oke Aro Road,
Oke Aro Bus/Stop








Due to endemic ASF situation, OIE receives 6-monthly reports from: Benin, Burkina Faso, Burundi, Cabo Verde, Central African Republic, Congo (Democratic Rep. of), Congo (Rep. of), Côte d'Ivoire, Gambia, Ghana, Guinea-Bissau, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, South Africa, Tanzania, Togo, Uganda and Zambia.





Example of Intra-national movement of pigs in a country. All country have the legal and informal routes for movement of pigs including those with trans-national implications, particularly, those living close to the borders.

Figure 1. Probable spread of ASF within Nigeria 1997-1998 and 1999-date based on available data.

- Legends:**
- Initial Entry point** 
 - Pattern of Pig trade movement** 
 - Major outbreak locations** 

Anthropogenic behaviour facilitating ASF in West & Central Africa



- Indiscriminate sourcing of pigs.
- Indiscriminate sourcing of feeds and interactions at the feed mills.
- Use of untested waters –streams, well etc.
- Siting of slaughter slabs within the pig farming area.
- Sharing of boars within the farming communities.
- Unrestricted inflow and outflow of people and pigs.
- Lack of adherence to biosecurity principles.
- Lack of appropriate waste disposal facility.
- Engagement in multiple risky job categories – farmers, butcher, traders and speculators/brokers.
- Unscrupulous activities of farm attendants, managers, owners, paravets and vets, e.g. visiting other farms to consult without adherence to risk mitigation protocols.
- Poor community-level biosecurity.

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Picture Credits



<https://www.dkfindout.com/us/animals-and-nature/domesticated-animals/pigs/> (Slide 6a)

<https://www.thepigsite.com/articles/the-importance-of-a-good-gut-feeling-in-pig-production> (Slide 17b)

<https://www.msdmanuals.com/home/infections/parasitic-infections-cestodes-tapeworms/echinococcosis-dog-tapeworm-infection> (Slide 27-CDC)

Oke Aro Pig Farmers Association (<https://www.facebook.com/people/Oke-Aro-PIG-Farmers-Association/100057498608136/>) (Slides 34 – 37).

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