Pig Case Study Ivory Coast 1

Extensive village systems, Abigui, Dimbokro

3 extensive easy-care traditional production systems

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Traditional African pig production

It is common for village farmers in the Ivory Coast in Africa to keep a few breeding pigs and their progeny. The joints of meat they produce, killed and butchered on the farm for sale at the local market, provide an important source of income.

N'dja Malan, Gnamien Kanga and Konan Kouadio Etienne are three small farmers from the village of Abigui in the prefecture of Dimbokro. They obtain their main livelihood by growing crops, but they keep pigs as a source of additional income.

They operate a traditional 'easy-care' system of production, feeding their pigs once a day when they return from tending their crops. They provide their pigs with a carbohydrate-based maintenance diet consisting largely of cassava and papaya. The pigs' growth rates will be largely dependent on the amount of protein they forage for themselves to supplement their diet.

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Pigs, chickens and goat scavenging food waste

Photo: © MAEP/CIWF Trust

Pigs are fed on carbohydrate foods like cassava

The pigs are not contained at all and are free to go where they like at all times, mixing amicably with other village animals such as chickens, ducks and goats. The animals all have access to waste human food. The pigs then top up this diet with what they can forage from the village and its surrounding area. The villagers' crops are grown some distance away and are protected from the pigs and other animals by a fence. The pigs remain associated with humans to obtain food and protection.

The farmers originally obtained their stock as gifts from relatives.

Animal welfare aspects

Traditional systems such as these have many welfare advantages:

1. The pigs have considerable freedom to control their own environment and welfare and to perform natural behaviours. For example:
   - They can choose when to forage and when to rest
   - They can huddle at night in family nests to keep warm
   - They can seek natural shade and wallows in the surrounding woodland when they want to cool down

Photo: © MAEP/CIWF Trust

Pigs can forage in the area around the village

- They can find most of their requirements for food, water and shelter in the surrounding area. Although they may not get all they want to eat, a hungry pig can always go out to forage.

2. Their life-cycle is not subject to frequent human interference. For example:
   - They are not usually subject to painful mutilations
   - The sows breed naturally
   - The sows wean their piglets at the time of their own choosing

Photo: © MAEP/CIWF Trust

Piglets can huddle for warmth or seek the shade

Although there are occasional reports of piglet castration, mutilations are very rare in this region. Tail-biting is in any case uncommon in systems where piglets are free to explore their natural environment, so there is no need for tail-docking. Since the sows have relatively few piglets, it is not necessary to clip their teeth to prevent damage to the mother.

The piglets are spared the stress of early weaning. They can gradually increase their intake of solid food as their mother reduces the availability of milk. Natural weaning may also help to ensure that the sow comes into oestrus when she is physiologically ready for it. The pigs remain in their natural social groupings, with several generations of pigs living together, until they are slaughtered.

3. The pigs are a local breed with a range of adaptations to their local environment. These pigs:
   - Are said to be resistant to disease
   - Are dark skinned
   - Are small in size
   - Grow slowly
   - Have small litters

Photo: © MAEP/CIWF Trust

Piglets continue to suckle until naturally weaned

Animals kept in any environment for many generations without too much human interference become adapted through *Natural Selection*. For example, pigs with natural immunity to local diseases are likely to prosper and pass this on to their offspring.

A dark skin helps protect the pigs from sunburn. Smaller animals are better able to keep cool in a warmer climate. Relatively low productivity helps the pigs to thrive in an environment in which concentrated food is not available in large quantities and breeding cycles are likely to be controlled naturally by the food supply. In addition, the pigs do not suffer from many of the metabolic pressures experienced by intensively-reared pigs that have been bred for high performance rates.

Traditional systems also have some obvious welfare drawbacks:

- The diet will not always provide for the animals' nutritional needs
- Sick animals are not likely to receive any veterinary care
- The pigs may fall victim to predation and thieving

Nevertheless, their natural adaptations help many of them to thrive. The reported fact that the sows farrow twice per year suggests they probably are getting an adequate diet. Predation is not a problem locally, though the occasional piglet may fall victim to dogs if they stray too far from the protection of their mothers. However, thieving is considered a problem.

Access to waste human food at the village garbage dump brings with it potential risks for the spread of disease and for injury to the pigs. However, 90% is of vegetable origin and anything which is edible is probably consumed very quickly. If the pigs obtain access to human faeces, tapeworms could be a problem.

Economic and social aspects

This is a classic traditional low-input low-output system. The pigs are small, grow slowly and produce small litters. However, they survive on relatively little feed and generally look after themselves. Their wastes decompose and are recycled where they fall, helping to fertilise the land.

In contrast, modern intensive farming is a high-input high-output system. Intensive pigs are larger, grow faster and produce larger litters. However, they need large quantities of high quality feed, require more veterinary care and are much more dependent on their stockpeople for their welfare.

Intensive farming can produce meat cheaply for urban populations, but there are costs:

- Price of meat drops, reducing the income of small traditional producers
- The concentration of pig wastes can cause pollution problems
- Animal welfare can suffer in systems which prevent natural behaviours and interfere with the animals' natural life-cycles

Small farmers throughout the world are often very dependent on their animals to provide a reasonable income as well as subsistence. Although these Ivorian farmers do eat some of the meat of their own pigs, they are mainly reared for sale as joints at the local market. The development of intensive farming can undermine the livelihoods of farmers such as these.

It is likely in the future that local farmers may have access to more productive 'improved' breeds of pig. This could have the potential to increase farm incomes, but there are also risks. Exotic breeds of pig may be less well adapted to:

- The low quality diet
- Local diseases
- Traditional easy-care systems of management

Furthermore, the adoption of exotic breeds brings with it the risk that these traditional local breeds will become extinct. Genetics which may be important for the future development of pig farming may be lost.

Many traditional breeds of pig and other farm animals are valued for qualities including flavour. In Spain traditional extensive systems of pig farming, using the traditional Iberian pig, produce hams which fetch high prices.

At present, these farming systems provide an important income through local village sales. There could be demand in future from urban centres for 'traditional tastes of the countryside.' If traditional methods with traditional breeds are developed, not abandoned, there may be opportunities for niche markets in the future. In the long term there may also be export opportunities. These will depend on the survival of both traditional breeds and methods of rearing.

These three farms give an insight into how pigs were traditionally reared throughout the world. This has only changed in highly developed countries over the last 50-60 years. Intensive systems now predominate in these countries and many of the skills associated with traditional ways of rearing have been lost.

Photo: © MAEP/CIWF Trust

3 traditional free-range subsistence systems
Farmers: N'dja Malan, Gnamien Kanga and Konan Kouadio Etienne

Dates of visit	30 July & 1 August 2004
Certification scheme	None
Number of sows	Not available. Total number of pigs including piglets: 15; 23; 32
Breed	Small local breed
Food	Cassava, papaya fruit and what they can forage for themselves
Average and maximum farrowings per sow	No data, but each farmer owns several generations of pigs of all ages
Farrowings per year	2
% piglets stillborn	No data available
% live born piglet mortality	No precise data. Death rate varies according to numbers of piglets born; higher when litter size more than 6
Average number of piglets weaned per farrowing	litter size usually 6
Mutilations	None
Weaning age	Natural weaning
Growth rate	Variable, but approx 80g per day (slaughtered at one year or more old)
Food conversion rate	Not known, but they will forage most food for themselves.
Weight when sold on or slaughtered	30-40kg
Transport to slaughter	Usually killed on the farm
Price to farmer	Not reported, but an important part of income
Market	Mostly sold as joints at the local market
Number of stockpersons	Varies; farmer and his children
Number of inspections	Once a day when fed
Health problems	Scab can be a problem. Pigs said to be generally resistant to disease
Other welfare issues identified	Likely slaughter methods (not reported). Risk of injury and to health at garbage dump. Low quality diet. Occasional predation by dogs and thieves