

# GOAT KEEPING IN PAPUA NEW GUINEA

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## INTRODUCTION

Goats and sheep are more suitable than cattle for village projects in Papua New Guinea for several reasons:

1. The initial capital outlay is small.
2. Single animals can be slaughtered and all the meat sold or eaten before it is spoilt, so they are ideal for ceremonies or for family/village consumption.
3. They breed much quicker than cattle, so stock can be built up faster.
4. The animals are small enough to be looked after by women and children.

Sheep-rearing has proved fairly successful in the Highlands, but very careful management is necessary. Sheep require good pasture, mineral supplements, regular drenching against worms, and they must be checked often for screw-worm strike.

On the other hand, goats have received relatively little attention. This article presents some facts which may stimulate an interest in goats.

## DIET AND DISEASE

Goats can live on a much poorer, coarser diet than sheep or

cattle. They are known to be more efficient at digesting cellulose than all other domestic animals. Cellulose is the substance of which plant cell walls are made. Goats prefer to take small amounts from many different kinds of plants. Because of their varied diet they take in a wide variety of different nutrients. Therefore they grow reasonably well without mineral block supplements. However, they definitely do even better if a mineral block is provided.

Another benefit from their eating habits is that they prefer to 'browse' on plants above ground level, and so avoid the heavy worm infestations common in sheep. (Parasitic worms are normally passed from animal to animal at ground level, via faeces (dung)). Goats do benefit from regular drenching for worms, but survive adequately without it.

If goats are allowed to range freely they do not need a special supply of drinking water. In fact, if goats are allowed to range freely, they are extremely hardy and resistant to disease.

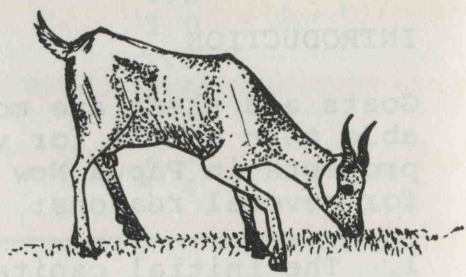
## HOUSING AND MANAGEMENT

Goats, by nature, are territorial (keep to their home area). They form small flocks which wander around the village, and



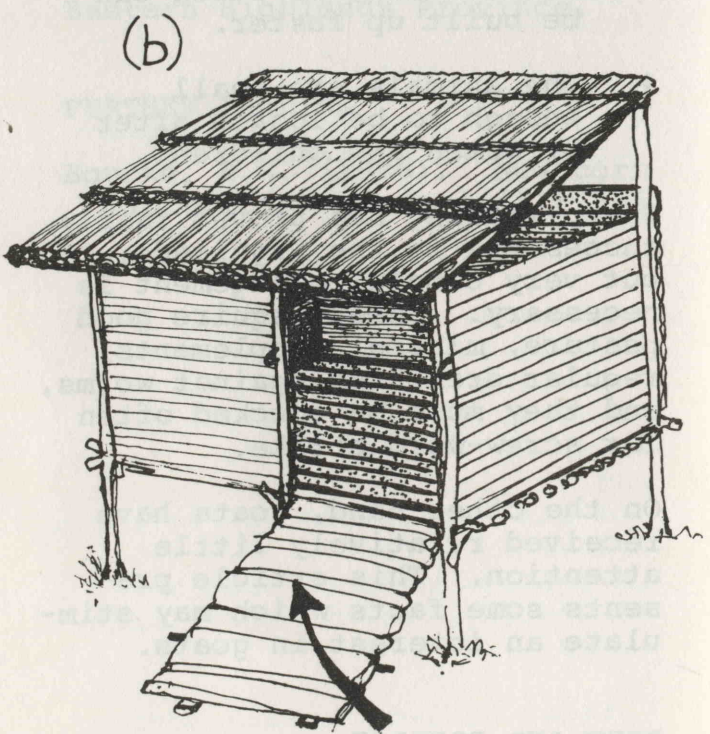
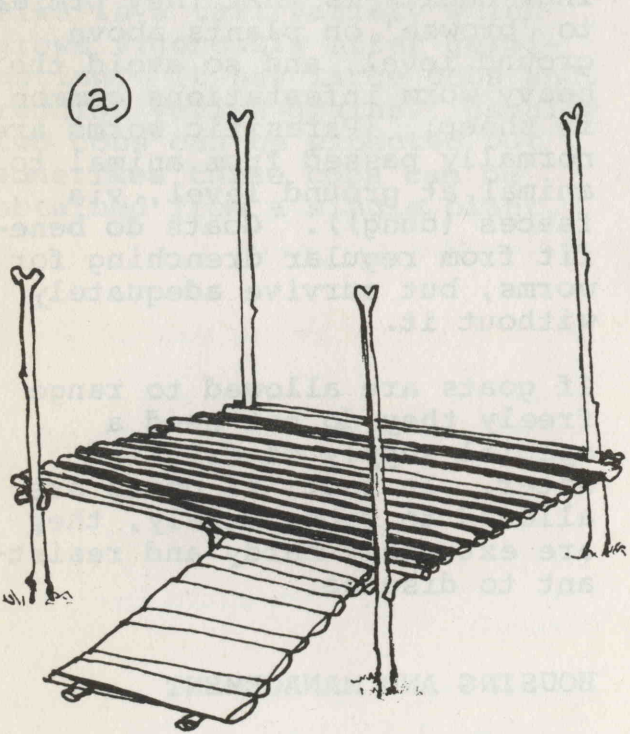


RIGHT



WRONG

Goats prefer to browse vegetation well up off the ground



Construction of a bush materials night-house for goats



do not often stray further than about 200 metres.

In many countries, goats are never tied up, or housed. Their owners feed them scraps and this encourages the animals to recognize their particular owner. This system is practiced in parts of the Papua New Guinea highlands. In Chimbu Province especially, goats may be seen loose on the roadside at any time of the day or night.

Goats are well-suited to such a low level management, as they are quick enough to escape from dangers such as thieves or dogs. They are also capable of fighting off dogs, if necessary. However it is more common in the highlands to provide a simple bush-materials night-house for goats. The houses have a raised, slatted floor, thatched roof and split cane sides (see diagram).

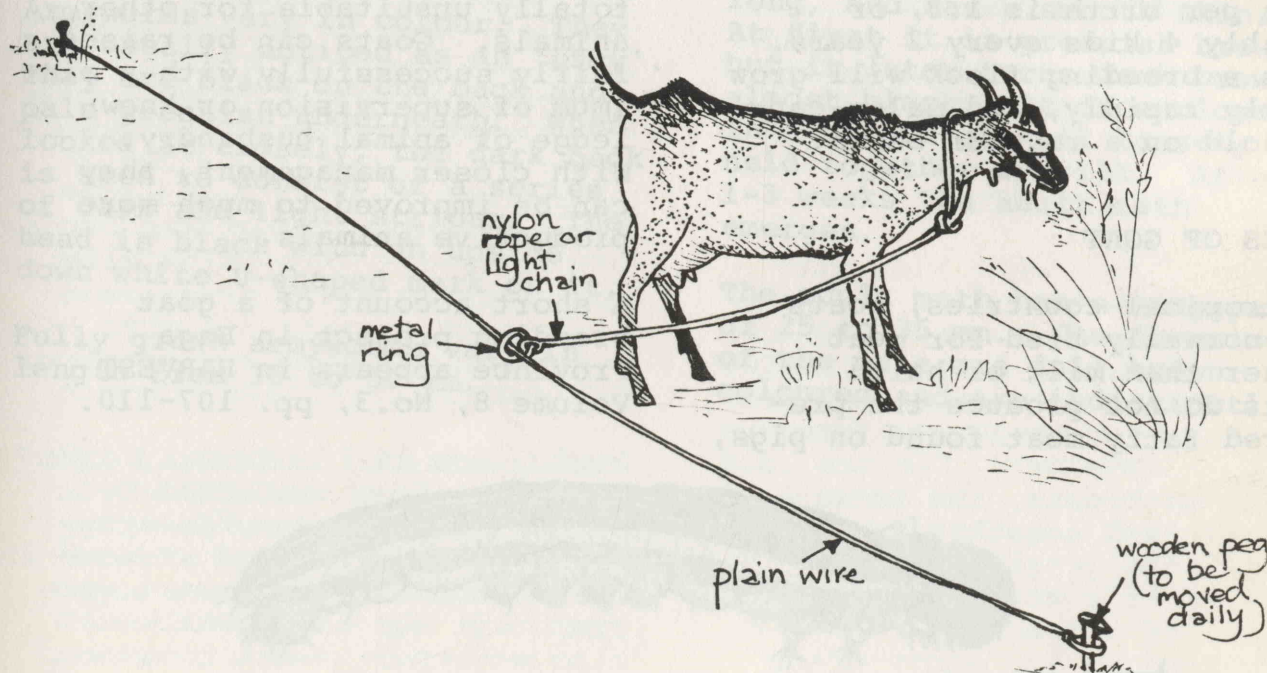
The goats are fed sweet potato vines in the houses. This encourages them to return to the house. When they get used to

the house, they will return to it throughout the day to rest or shelter.

Sometimes people tether their goats during the day, and house them at night. This method has the following disadvantages:

1. The goat does not have the opportunity to take a wide variety of food, so it may not get all the right nutrients in its diet and it may be forced to eat poisonous plants.
2. Tethered goats usually require drinking water to be carried to them each day.
3. The rope is often made too short in an attempt to stop it becoming entangled.

These disadvantages can be overcome by moving the tether several times a day. Alternatively, the tether could be attached by a ring to a long base line fixed at each end as shown in the diagram below.



*Recommended method for tethering goats*



Goats are not such a problem in gardens as you might expect. Unlike pigs, goats eat only leaves and vines, and not roots. They do not normally eat large quantities of one type of food. Goats also do not damage coffee. Pig fences help to keep goats out of the gardens.

#### BREEDING

Goats become sexually mature as early as 6 months of age. The gestation (pregnancy) period is under 5 months (146 days on average), and the female will mate again 1-4 months after kidding. Goats weigh 15-20 kg at 6 months old and 25-35 kg when fully mature at about a year old.

A suitable cycle to work with is 8 months. Females are mated 3 months after the birth so that they produce kids every 8 months. Female kids are mated at 11 months old, and therefore produce their first kid at 16 months. This fits into the 8 months cycle.

Twins are common in highlands goats. The average number of kids per birth is 1.3, or roughly 4 kids every 2 years. Thus a breeding flock will grow fairly rapidly, and males can be sold on a regular basis.

#### TYPES OF GOAT

In tropical countries, goats are normally bred for meat rather than milk or hair. Goats do not produce the preferred fatty meat found on pigs,

and to a lesser extent on sheep. However they increase in numbers and weight faster than either pigs or sheep. Thus goat meat could easily become a regular source of protein.

In Papua New Guinea at the moment the goats are largely unimproved 'bush' types. Any production of goats from a Breeding Centre must start with this type and select for fast growth, large size, twinning, and, most importantly, survivability.

#### USING PASTURE

Whereas sheep will graze a pasture selectively, goats are much less selective. Thus keeping sheep and goats together could be a good way to make the best use of a pasture. The sheep eat the soft grass, the goats eat the tougher, coarser plants.

#### CONCLUSIONS

In summary, the goat is a cheap, hardy, fast breeding animal which can survive on land totally unsuitable for other animals. Goats can be raised fairly successfully with a minimum of supervision or knowledge of animal husbandry. With closer management, they can be improved to much more productive animals.

A short account of a goat breeding project in Enga Province appears in HARVEST Volume 8, No.3, pp. 107-110.