

# DRAFT BUFFALO TRAINING PROGRAMME IN MADANG PROVINCE

By Livy L. Villaflor, Rural Development Officer  
Livestock Branch, D.P.I., Madang Province.

## INTRODUCTION

In 1976, the Division of Primary Industry Livestock Branch, Madang Province re-introduced water buffaloes as draft (working) animals. This article describes the training programme in operation to train copra, cocoa and other cash crop farmers to use buffaloes to carry produce, plough and harrow garden land.

## BACKGROUND

Farmers of Madang put in a request for buffaloes, equipment and training. The livestock branch of D.P.I., Madang, selects suitable people for training and allocates buffaloes and equipment during the training. Farmers leave their villages and stay at the livestock Station at Sagalau, Madang, for three weeks of intensive training. The course covers handling buffalo, ploughing, harrowing and carting. Other related topics are also covered.

D.P.I. provides follow-up extension work in the villages. Newly-trained farmers are checked every month. Farmers who have proved that they can use their buffalo successfully, are checked every 3 months.

The delivery of the buffaloes

and equipment to the villages after the course, is handled by D.P.I. Farmers have to pay for some of the cost of this. Animals and equipment are hired at a minimum charge of K1.00 per week. Farmers are charged monthly by Provincial Government Debit Note.

If buffaloes are not being used efficiently, they are transferred to farmers who can make better use of them. In March 1981, there were 56 farmers using buffaloes successfully. Each farmer is responsible for his own buffalo. Other villagers can hire him to work for them with his animal.

After the farmers have been trained, they are given a variety of food garden seeds (e.g. tomatoes, peanuts and beans), as well as feed grain and seed (e.g. corn, sorghum, soya bean, mung bean) for pig and poultry feeds. They are asked to pay back these expenses when they harvest their crops.

## THE DRAFT BUFFALO TRAINING PROGRAMME

The training programme for draft buffalo takes three weeks.

It is best to train the animals on flat land which has been previously cultivated. An old garden is suitable. All tree



roots and stumps should be removed, and grass burned off.

Every day during the three weeks, the farmer washes his buffalo before 7.45 a.m. and then works until 10 a.m. During the hottest part of the day, the buffaloes rest and graze in the shade. The men rest and take lessons. At 2 p.m., practical work starts again.

Buffaloes suffer sunstroke easily, so it is very important to give them water after work.

The practical work covered each week is as follows:

#### Week 1.

##### Nose punching

A hole is made in the septum (the flesh which divides the two nostrils) so that the buffalo can be easily lead with a rope.

To make the hole, first the buffalo is secured in a crush. In the village, a farmer can use a strong post, or a tree. A control rope is used to prevent the animal moving its head and injuring itself and the operator. The rope is looped around the base of the horns, passed around the muzzle and tied to the post or tree. This is shown in diagram 1, opposite.

The hole in the septum is made with a special hole puncher. In the village a sharpened hard wood tool can be used. A nylon rope 2 m long and 8 mm in diameter is looped around the neck, and one end passed through the septum from right to left, as shown in diagram 2. This rope will hold the harness. It takes 1-2 weeks for the hole to heal up.

##### Securing the four legs

An untrained animal will run away or attack people when it is released after putting in the rope. To prevent this, the four legs must be tied as shown in diagram 3. The ropes must be long enough for the animal to walk normally, but not too long, or it will run fast. The ropes should be kept on for two days and released each night.

##### Hitching a buffalo to a two-wheeled cart.

A buffalo can be hitched to a cart on the third day of its training. This should be done on a quiet road. The animal's forelegs should be tied to two posts at either side. This prevents it from moving sideways. A man holds the nose rope, pulling it backwards. This stops the buffalo from moving forwards. The trainer says 'Hoo!', which means 'Stop'. The arms of the cart are lowered gently, and the yoke of the cart is held in place with the neck rope. (See diagram 4.)



*Farmers hitching the trailer to their buffalo.*



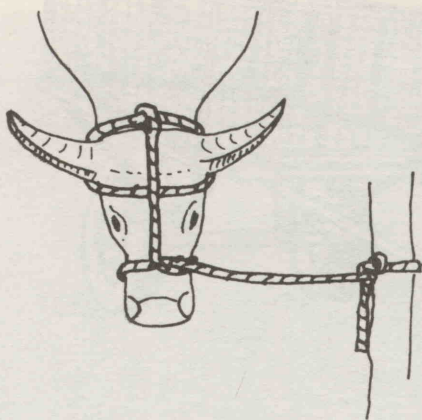


DIAGRAM 1

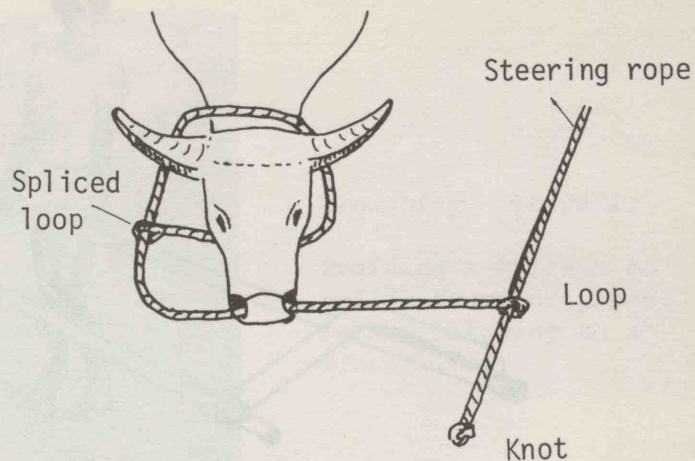


DIAGRAM 2

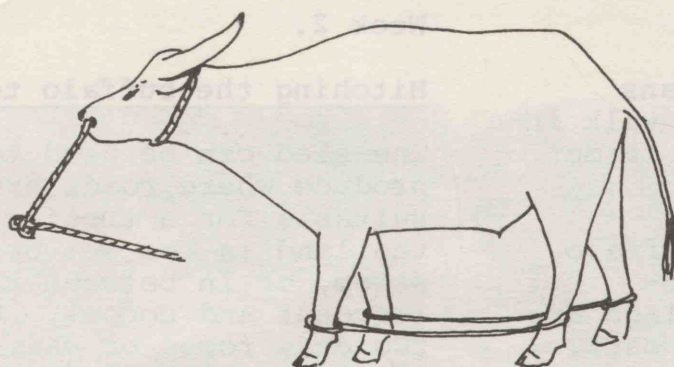


DIAGRAM 3

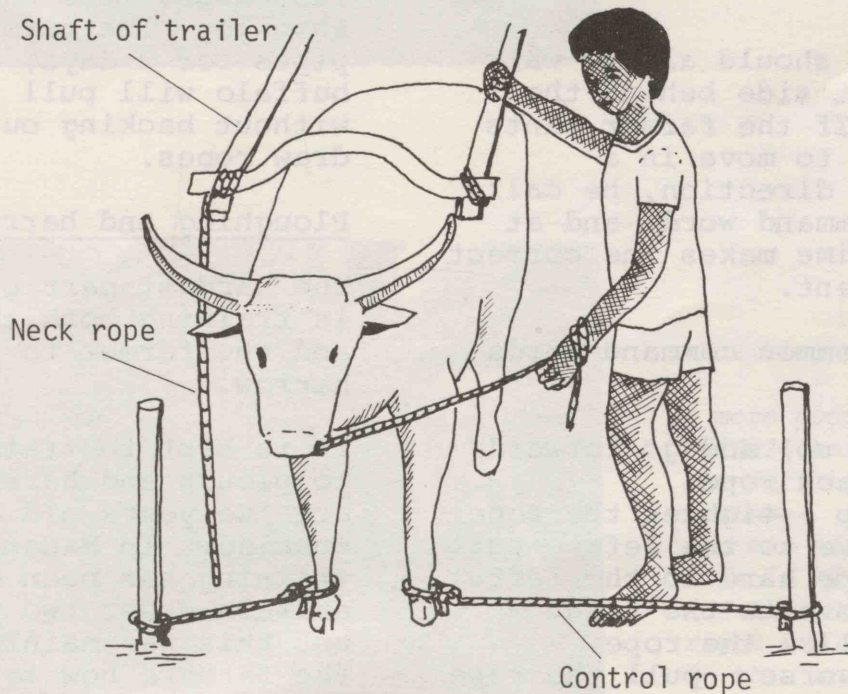
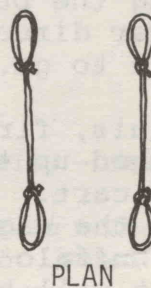
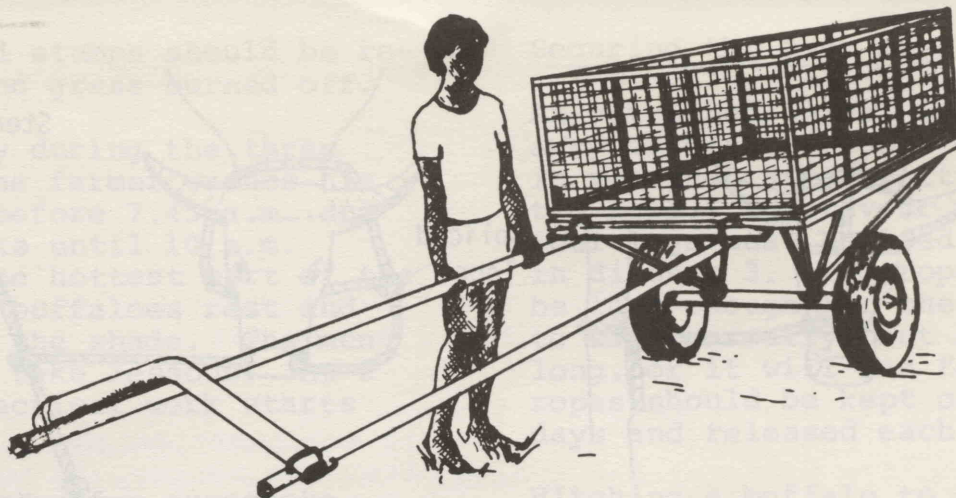


DIAGRAM 4



*A two wheeled buffalo cart. Plans for constructing this cart may be obtained from the P.R.D.O., Madang.*

### Directional training

Directional training means teaching the buffalo to walk in whichever direction the farmer wants it to go.

To do this, first the buffalo is hitched up to the two-wheeled cart. The forelegs are tied to the cage of the cart. If the buffalo tries to run fast, it will be stopped by the rope. When it is well trained, the ropes are untied, but the cart is left hitched to the animal.

The farmer should always walk on the left side behind the buffalo. If the farmer wants his animal to move in a particular direction, he calls out the command word, and at the same time makes the correct rope movement.

The most common command words are:

- Hi! = (get up) and go forward  
- slack rope.
- Hoo! = Stop - tighten the rope.
- Left! = Move to the left - pull rope hard to the left.
- Right! = Move to the right - flick the rope.
- Back! = Reverse - pull the rope backwards.

### Week 2.

#### Hitching the buffalo to a sled

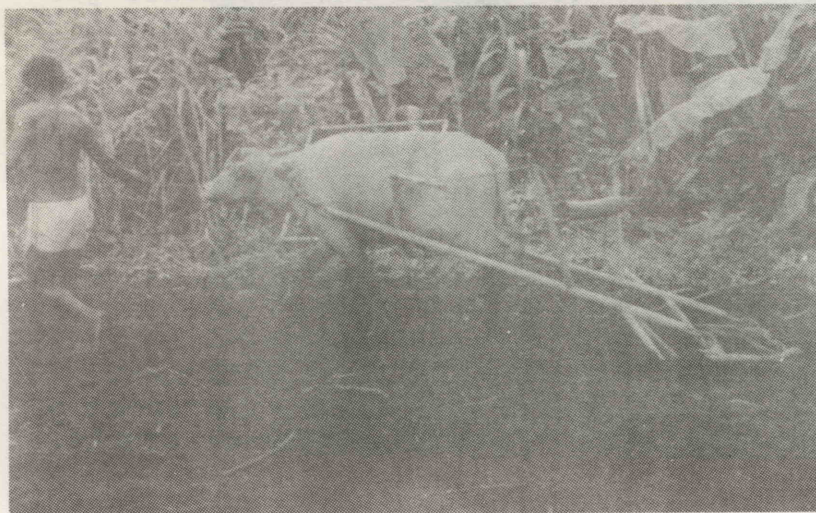
The sled can be used to carry produce where roads are not suitable for a trailer, or if the land is too wet or too steep, or in between trees (coconut and cocoa). Usually, two draw ropes or chains, are used to pull a sled. For training, these are replaced by two pipes, 2.5 m long, with 30 cm of chain welded at each end. The yoke and sled are fastened to the chain with a shackle. The farmer uses the pipes for 2 days, or until the buffalo will pull the sled without backing out of the draw ropes.

#### Ploughing and harrowing

The hardest part of draft work is training both the buffalo and the farmer to plough and harrow.

It is best to train buffaloes to plough and harrow when they are two years old and well muscled. In Madang, plough training has been done using animals under two years of age, but this was mainly to teach the farmers how to plough and command the buffalo.





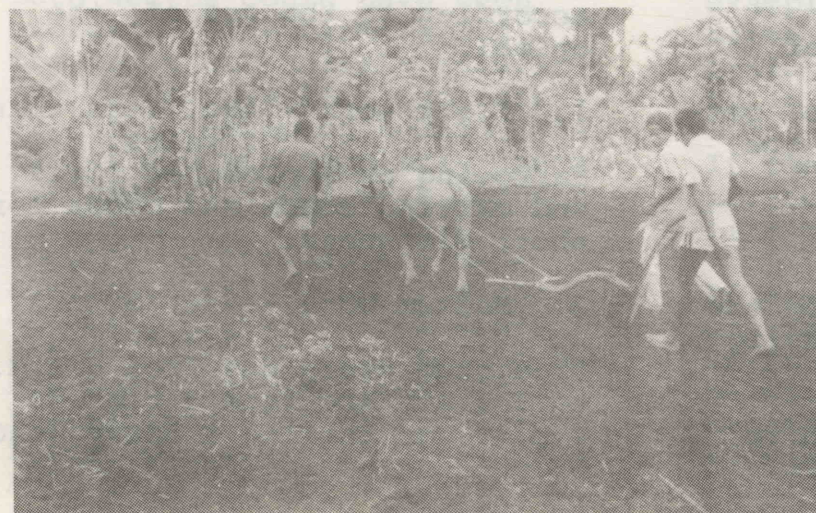
Ploughing - Stage 1.

Training a buffalo to pull a frame of pipes, before hitching to a plough.



Ploughing - Stage 2.

A buffalo being led to plough. Ropes replace the pipes.



Ploughing - Stage 3.

A more cooperative buffalo being driven on its left by a farmer trainee. Eventually, one man with the control rope in his left hand and the plough in his right will be able to do this work.





*This garden has just been harrowed three times for planting peanuts.*

During training, pipes, like those used with sled training, are used.

### FARMERS TRAINING PROGRAMME

The farmers are given lessons between 10 a.m. and 2 p.m., when it is too hot for practical work. The full programme is outlined below. It includes both practical and classroom work.

#### Week 1

1. Management of working buffaloes.
2. Feeding and watering.
3.
  - a) Maintenance of buffalo equipment.
  - b) Adjustments to plough and trailer, land preparation.
  - c) Yoke making; use of tools.
  - d) Riding the buffalo; getting the trust of the buffalo.

#### Week 2

1. Rope splicing (joining the ends of a rope by weaving the strands).
2. Paying debit notes; hire rates; elementary farm economics and loans.

3. Cereal and vegetable gardening. Tethering the buffaloes.

#### Week 3

1. Continue practical work.
2. Talks on poultry, pig projects and slaughtering.
3. Animal diseases and their treatment; government regulations; transport of animals; village courts.

On the last day of the course, D.P.I. staff visit those farmers who have successfully completed the training. Contracts are signed for the lease of buffalo and equipment.

### QUALITIES OF A GOOD BUFFALO TRAINER

A successful trainer should like working with animals. At the same time, the animal being trained must learn to obey his master's command. So the trainer should be firm and confident, but should also show himself to be a friend by providing enough food, water and shade.

### THE WORK OF A BUFFALO

The work which a buffalo can do is divided into three types, according to the age of the animal.

1. Light work - Age, less than 2 years.

Harrowing on a ploughed field and carting copra and cocoa for short distances.

2. Medium work - Age, 2 to 3 years.

Ploughing every day from 6 a.m. to 9 a.m., and from 2 p.m. to 4 p.m., or carting a heavy load, or pulling a sled for 5 hours in the cool part of the day.





*Buffalo farmers and their equipment, with the Provincial Livestock Officer, Madang, after a draft buffalo training course at D.P.I. Livestock Branch, Sagalau, Madang (February 1981).*

### 3. Hard work - Age 3 years and over.

Ploughing, cart work and pulling logs for 9 hours a day.

The working life of a buffalo is up to 20 years.

### PROGRESS OF THE PROJECT

The project has been going on for 5 years. There are now 56 farmers who are successfully using draft buffalo. Another 120 farmers are on a waiting list to get their own buffalo and equipment.

During the 5 years, two buffaloes have died of heat stroke. Both deaths could have been avoided if the farmers had checked their animals regularly. There has been one case of a bull escaping because the farmer did not regularly check the nose rope for wear and rot.

About 10 buffaloes are made available each year from the Catholic Mission at Alexis-hafen. Also, D.P.I. Madang has now been given National Public Expenditure Plan (N.P.E.P.) funds for developing the Erima Buffalo Project. This project is being set up as a buffalo

multiplication station. An initial stock of 50 cows and heifers will build up to 100 breeder and 5 buffalo bulls. Steers and non-reproducing females will be used for the draft buffalo course. Females which have a calf every year will be kept at Erima.

The 56 draft buffalo farmers have been financed by a grant from the Village Economic Development Fund. Further funds are still needed.

### OTHER IDEAS AND NEW PROJECTS

There are other possibilities for using water buffaloes, for example: using buffaloes to drive equipment for milling grain or milking buffalo cows for village use.

If there is a draft animal project in your area, we should like to hear about it.

If any other Provincial Staff are interested in starting a draft animal project, we would be willing to train them. Requests and ideas should be addressed to the Provincial Rural Development Officer, Madang.