Ministry of Agriculture and Rural Development

Department of Animal Health

Small Ruminants' External Parasitic Diseases Control Strategy

Addis Ababa

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1. BACKGROUND

Self sufficiency in food production has been the top agenda of the Ethiopian government since the past four decades. Livestock are important contributors to food production providing draught power for cultivation and traction, meat, milk and egg for consumption and manure to fertilize the soil. Hides and skins are valuable animal by products.

Livestock are also source of disposable income and employment. Seasonal or intermittent income from the sale of milk, meat, wool, skins, hides and live animals provide cash injection in to the farm incomes and these products can also provide emergency source of income or income to meet seasonal purchases such as seed, fertilizer and pesticides.

In Ethiopia the livestock sub sector contribute to an estimated 16% of the total gross domestic products (GDP) and over 30% of the total agricultural GDP. Further more hides and skins account for between 12-16% of the total export value during 1984-88.

Rearing of small ruminants (sheep & goats) is practiced by the majority of the farming communities. Small ruminants are kept for the purpose of meat, milk and wool production and income generation.

Their high fertility and short generation interval which means that milk production begins five or six month after initial mating and that the first carcass may be on sale in less than one year is their economical, managerial and biological advantages.

The goat is an important animal in subsistence agriculture on account of unique ability to adapt and maintain itself in harsh environments. This ability is advantageous in utilization of marginal lands.

Skin and manure are valuable by products of sheep and goat production. Export of hides and skins represent the one of the most important source of foreign exchange earning for country.

Owing to their ability to thrive and reproduce fast even in harsh environments sheep and goats are considered as an investment and insurance against crop failure. Further more they have a place in local custom, religion and festival occasions.

2. PROJECT RATIONALE

Even though small ruminants are known to adapt in harsh environments, the compound effect of overcrowding, poor nutrition and diseases can result in serious economic.

External parasitic diseases of sheep & goats caused by mites, lice, keds and sometimes tick are found widely distributed in the Amhara, Tigray and Afar regions. Infestation with lice and keds cause blood loss, irritation which result in skin or wool damage, poor growth, loss of body condition and decreased milk production.

Mites cause a condition called mange which causes itching which result in loss of hair or wool and skin damage, loss of body condition and death.

Although economic losses caused by mange, lice and keds are not estimated, these must be certainly high judging from poor condition of affected animals, deaths, damage of skin and cost of treatments. It also takes some time before the treated animals could return to their normal body condition after clinical recovery.

In some areas of Amhara, Tigray and Afar regions mange is a serious problem for keeping sheep and goats. Mortality rate of 93% of goats were

recorded in Yeku integrated water shed development project feasibility study report (1999) in the Amhara region.

The major observed economic loss due to mange, lice and keds is associated with skin damage. In 1996/97 six tanneries that are found in and around Addis Ababa have rejected 2,037,745 pieces of skins which caused loss of US$ 6.3 million and in 1998/99 three tanneries that are found in Amhara region have reported 443,602 pieces of skin rejection per annum which worth US $ 1.4 million loss.

These figures are supposed to be far below the actual losses as severely affected skins may not come to the market and those moderately damaged skins may also be removed by skin traders before they enter in to the tanneries.

Therefore, mange, lice and keds are considered potential threats and pose a serious economic problem to the development of sheep and goat production and the tanning industry in the country and need urgent control intervention.

3. OBJECTIVES

- To reduce the disease incidence rate to a minimal level and avoid further mortality of sheep and goats in these regions.
- to improve the quality and quantity of skins supplied to tanneries by decreasing the damage caused by these external parasites

4. PROJECT AREA

The project area includes the most affected areas of the country namely the Amhara, Tigray and Afar National Regional States.

There are about 3843 Peasant or pastoralist associations in these regions with a population of 12,337,800---small ruminants **(Annex I).**

CONTROL STRATEGY

- Plunge dipping of sheep and goats in approved acaricide offers the only effective method of controlling external parasites in many countries. In this control program sheep and goats will be dipped in a modified 200 lit hard plastic vat that can be moved from place to place.
- The control strategy is designed for three years.
- Community awareness meetings would be conducted at PA and village levels to publicize the control programme and initiate farmers to produce bylaws that would enforce livestock owners to make their animals treated.
- All sheep and goats in the three regions would be dipped using 600EC (60%) diazinon. A free and compulsory double dipping at 10-14 days interval would be provided to treat all flocks. Then a single treatment will be provided every three months for a year a total of 5 treatments in a year).
- During the coming two years 20% of sheep & goats including cases of outbreaks and animals crossing in to the borders of these regions will be treated 4 times per year. During these years treatment sites will be established on livestock entrance routes to treat sheep and goats moved into these regions for trade and/or grazing purposes from border regions and the Sudan.
- Often farmers are not volunteer to bring their animals and pay for treatments unless their animals are severely affected. Taking this into account and the possible danger of moderately affected and apparently healthy animals as source of infestation, treatments are proposed to be provided free of charge.
- Other large animals of any species clinically found infested with mange would be treated using sprayers from veterinary clinics twice at 10-14 days interval to avoid interspecies transmission. For this about 5% of the total acaricide to be used for the control programme in small ruminants will be required.

- Any out break of mange occurred in protected areas should be reported to the near by veterinary clinics and will be controlled by treatment.
- All treated animals will be registered, marked on punched. Certificates of treatment are to be issued to each farmer.
- A movement restriction order will be set by the concerned bureaus of these regions to control livestock movements, especially sheep and goats into these regions unless treated for mange and certified.
- About 0.5% of the population is expected to need treatment with atropine sulfate as an antidote for possible acaricide poisoning at a cost of 1.5 Birr/head.
- Acaricide treatment cost for sheep & goats will be 0.20 cents/treatment/head.
- 2 plastic vats will be required per each peasant or pastoralists' association (PA).
- 2 knapsack sprayers (per animal health post) and 2 sets of protective clothing will be required per three peasant or pastoralists' associations.