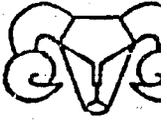
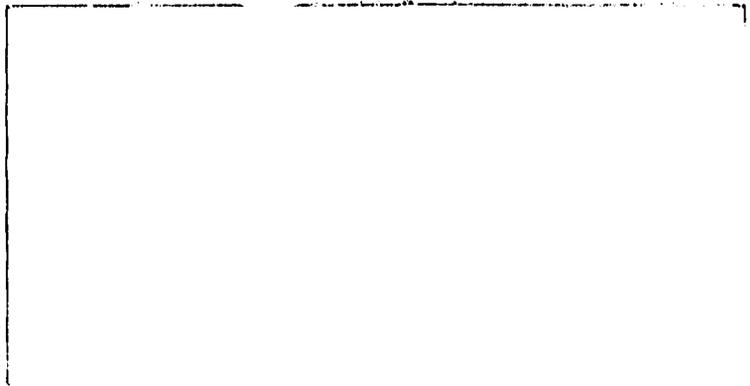
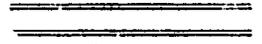


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Small Ruminant - CRSP



SUB-BALAI PENELITIAN TERNAK, SUNGAI PUTIH

BALAI PENELITIAN TERNAK

PUSAT PENELITIAN DAN PENGEMBANGAN PETERNAKAN

PN-ABR-719

**DEVELOPMENT OF A PRIVATE ANIMAL HEALTH
DELIVERY NETWORK IN NORTH SUMATRA,
INDONESIA**

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Working Paper No. 144, October 1993

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DEVELOPMENT OF A PRIVATE ANIMAL HEALTH DELIVERY NETWORK IN NORTH SUMATRA, INDONESIA

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ABSTRACT

To encourage farmers to use anthelmintics and to make the anthelmintics available in the field at a reasonable price, an Animal Health Delivery Network (AHDN) which links drug wholesalers, extension agents, small ruminant traders, local poultry shops, and farmers under the coordination of Small Ruminant-Collaborative Research Support Program (SR-CRSP)/Animal Research Station (ARS) Sei Putih and Provincial Livestock Service is being developed. The anthelmintics are channeled from distributor to farmers through SR-CRSP extension workers, Sub-district Livestock Service extension workers, small ruminants traders, and poultry shops.

Farmers are able to recognize the benefits of periodic anti-parasite treatment and willing to pay for the anthelmintics. However, despite repeated demonstrations, farmers are reluctant to apply the drug themselves. Training for farmers is essential to improving their skill pertaining to the technology.

Farmers buy anthelmintics from SR-CRSP extension workers (73.9%) and traders (26.1%). Farmers do not yet buy the anthelmintics from poultry shops because farmers cannot afford the anthelmintic as it is only sold in one-liter jars so that the price is too expensive. Therefore, selling drugs via poultry shops would require (a) an intensive information campaign, (b) the sale of drugs in smaller packages, and (c) convincing farmers to apply the drugs themselves. Traders, despite selling at a slightly higher price, were a remarkably effective way to sell drugs to farmers.

Personnel of provincial and district livestock services responded very well to the AHDN program. However, personnel of sub-district level of the livestock service did not respond satisfactorily. The staff complain about the illegal status of their competitors in dispensing the anthelmintic.

PENGEMBANGAN USAHA SWASTA DALAM MENYALURKAN SARANA KESEHATAN HEWAN DI SUMATRA UTARA, INDONESIA

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ABSTRAK

Dalam usaha menganjurkan petani menggunakan obat cacing dalam kegiatan peternakan domba dan agar obat cacing tersebut tersedia di lapangan dengan harga yang terjangkau oleh petani, dikembangkanlah suatu Jaringan Penyaluran Sarana Kesehatan Hewan (JPSKH) di Sumatra Utara yang mengikutsertakan distributor, penyuluh, pedagang ternak, toko unggas (poultry shop) dan petani di bawah koordinasi Small Ruminant-Collaborative Research Support Program (SR-CRSP)/Sub Balai Penelitian Ternak (SBPT) Sei Putih dan Dinas Peternakan Propinsi Tk. I Sumatra Utara. Obat cacing dari distributor disalurkan kepada petani melalui penyuluh SR-CRSP, penyuluh Dinas Peternakan, pedagang ternak (penggalas) dan toko unggas.

Petani dapat memahami manfaat dari pemberian obat cacing secara berkala dan bersedia membayar biaya yang diperlukan untuk pemakaian obat cacing tersebut. Namun demikian, meskipun telah berulang kali diberikan petunjuk cara menggunakan obat cacing, petani masih belum mampu memberikan sendiri obat cacing tersebut. Untuk meningkatkan ketrampilan petanisehingga lebih menguasai teknologi (pemberian obat cacing) sangat diperlukan pelatihan bagi petani.

Petani umumnya membeli obat cacing dari petugas SR-CRSP (73.9%) dan pedagang perantara domba (26.1%). Belum ada petani yang membeli obat cacing dari toko unggas karena petani tidak mampu membelinya sebab obat cacing tersebut dijual dalam kemasan satu liter sehingga harganya menjadi mahal bagi petani. Walaupun pedagang perantara domba menjual obat cacing dengan harga yang lebih tinggi, pedagang perantara tersebut cukup efektif dalam menjangkau petani.

Petugas dinas peternakan propinsi dan kabupaten memberikan tanggapan yang sangat baik terhadap program JPSKH. Petugas dinas peternakan tingkat kecamatan kurang mengeluhkan legalitas pesaing mereka (penyuluh SR-CRSP dan pedagang perantara domba) dalam menyalurkan obat cacing.

DEVELOPMENT OF A PRIVATE ANIMAL HEALTH DELIVERY NETWORK IN NORTH SUMATRA, INDONESIA

Izuddin Kartamulia¹, Artaria Misniwati² and Henk Knipscheer³

Introduction

As in many other Third World countries, Indonesia's efforts to provide animal health care to the livestock holders has had only limited results. Because of the public interest to prevent such epidemic diseases, veterinary services in Indonesia are largely the responsibility of the government. National animal health policies are determined by the Director General of Livestock Services. Within the overall national policy, provincial heads, administratively responsible to the provincial government, have the authority to tailor the animal health delivery services to local requirements. Animal health services are extended to the district or *kabupaten* and then to the sub-district or *kecamatan* level.

The delivery system established which includes field services, laboratories, quarantine facilities, vaccine production centers, and drug assay laboratories guided by a central policy-making in Jakarta. Animal health centers and posts have been constructed and staffed by veterinary and animal health assistants. The centers are situated in key development districts requiring more advanced animal health services, such as areas with a high livestock density.

Animal drugs are distributed by the animal health centers, veterinarians, and private animal drug distributors, especially in urban areas. However, drugs are rarely available to farmers in the field, due to lack of transportation, low farmers' knowledge on the use of drugs,

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or lower availability of veterinarians and animal health assistants. The whole system is designed to prevent the outbreak of epidemic diseases. It is not responsive to the needs of individual farmers -especially not smallholder farmers raising small livestock such as goats and sheep. Also, in other countries such as Kenya, this problem is acknowledged (Mbabu & Nolan, 1993).

There are many examples of well-to-do livestock farmers who have excellent access to animal health services by contracting private veterinarians or by arranging preferential treatment by public animal health officers. So far it is the general belief that a private animal health care system for smallholders raising small livestock is not feasible because of the unwillingness by smallholder to pay cash for prevention animal health care such as periodic anthelmintics, drugs against internal parasites. And even if an occasional farmers would be willing to buy drugs for such purpose where would he find it? Therefore, the key question for Indonesian small stock keepers is not only if they would be willing to pay for preventive drugs but also if traders or other "middlemen" would be willing to make such inputs locally available. Earlier research in Indonesia had indicated that under some grazing systems internal parasites was a recurrent and serious problem. Farmers in North Sumatra like to graze their animals for 4-6 hours per day. Thus, internal parasites have been found to be constraint to livestock productivity (Beriajaya and Stevenson, 1986, Wilson et al, 1992).

The purpose of this paper is to analyse a pilot animal health delivery network. This pilot network consisted originally with a group of 24 farmers who collaborate with the Small Ruminants Collaborative Research Support Program (SR-CRSP).

Methodology

The analysis occurred in three phases. In Phase I, the farmers received treatment of their animals but were not required to pay for it. Preliminary analysis of the return to this kind of health showed significant benefits for parasite control especially. This increases the likelihood of parasites invention. Scholz (1992) calculated a tenfold return to investment (Rp 42,000 revenued for a Rp 4,200 treatment expense). She recommended to make drugs available on a non-subsidized free market basis.

During a second phase, farmers are were asked to reimbursed the SR-CRSP project staff for the actual (whole sale) costs of the drugs. All of the project farmers were willing to pay, and a substantial number of non-project farmers, also started paying for the drugs having learned the benefits from the project farmers.

Therefore, in the third phase an Animal Health Delivery Network (AHDN) was established. The AHDN links drug (especially anthelmintic) wholesalers, extension agents, small ruminant traders, and farmers under the coordination of Small Ruminant Collaborative Research Support Program (SR-CRSP) and the Provincial Livestock Service. The network is focused on improving animal health care of sheep in North Sumatra. The network objectives are: (1) to encourage farmers to use drugs, (2) to make drugs available in the field at a reasonable price, and (3) to compare alternative input channels.

The Small Ruminant-CRSP in Indonesia

The SR-CRSP is a multidisciplinary agricultural education, research, and development initiative established under the U.S. Congress' International Development and Food Assistance Act of 1975 and its Title XII amendment, the Famine Prevention and Freedom from Hunger Act (Lipner, 1988 In McCorkle et al, 1989). The SR-CRSP mandate is, through training and research, to strengthen the capabilities of U.S. land grant universities and collaborating foreign institutions to apply agricultural science in solving world food and nutrition problems (McCorkle et al, 1989).

The SR-CRSP was established in Indonesia in 1978 in collaboration with the Agency for Agricultural Research and Development (AARD), Department of Agriculture, Republic of Indonesia. One of the SR-CRSP projects is situated in Sei Putih, Galang, North Sumatra in collaboration with the Research Institute of Animal Production (RIAP) and Rubber Research Institute (RRI). The research focuses on integrating sheep into rubber plantations.

In 1988 the SR-CRSP, in collaboration with RIAP, launched the Outreach Research Project (ORP) in Sei Putih, North Sumatra. The primary objective of the ORP was to show farmers production methods that could help small-scale farmers improve their living standard by increasing the the productivity of their small ruminants. One of these new management technologies was the periodic treatment of the animals with anthelmintics.

The Animal Health Delivery Network

The AHDN was established in August 1992. Links between drug wholesale dealers, animal traders, shops, extension workers, SR-CRSP and Livestock Extension Services are depicted in Figure 1.

The SR-CRSP coordinates and promotes, while the provincial livestock service supervises the network.

The drugs (anthelmintics) are distributed by wholesale dealers to farmers through traders, shops, and extension workers.

Two drug wholesale dealers are participating in the network, each distributing a different brand name but have similar active ingredient of anthelmintic. Two kinds of anthelmintics are promoted for farmers use and both are claimed to be effective against worms and flukes. However, other drugs may also be offered to provide alternative choices for farmers.

Two poultry shops channel the drugs to farmers who live nearby the shops. The shops usually sell day-old chicks, chicken feeds, and drugs for poultry and cattle. Besides, the drugs are also conveyed by two SR-CRSP extension workers, two field workers of livestock service and two sheep traders. Competition among the agents occurs among the agents who serve the same area and is purposely stimulated to reach a reasonable drug price to farmers.

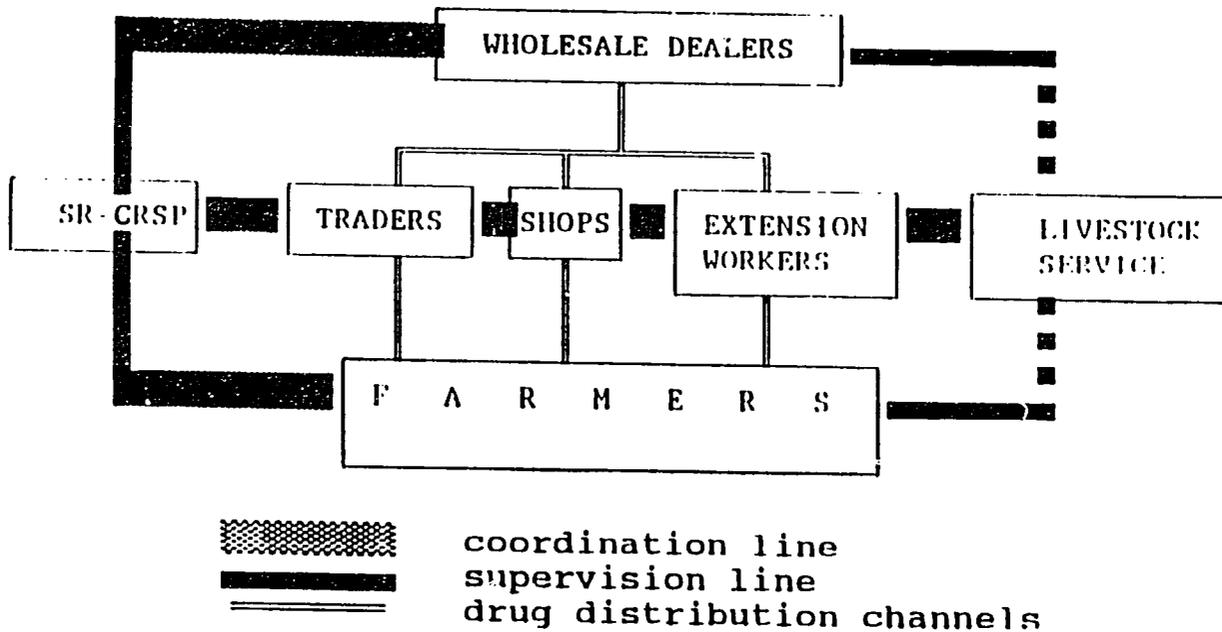


Figure 1. Animal Health Delivery Network Design

At the beginning of the AHDN phase farmers, poultry shop keepers, SR-CRSP and livestock service extension workers, sheep traders, and drug wholesale distributors were invited to a general meeting. The scientists of SR-CRSP/RIAP demonstrated the benefits of using anthelmintics to increase sheep production. Buyers and sellers discussed desired quantity, packaging, and price with each other.

Findings to-date

Personnel of provincial and district livestock services responded very well to the AHDN program. However, personnel of sub-district level of the livestock service who actually were to dispense the anthelmintic to the farmers -- and therefore should compete with the SR-CRSP extension workers, sheep traders and poultry shops -- did not respond satisfactorily. The staff, instead of trying to maximize their sale, complaining on the legal status of their competitors in dispensing the anthelmintic. However, regardless the issue, the SR-CRSP extension workers, sheep traders, and poultry shop keepers persisted on selling the anthelmintic.

Meanwhile, there was no buyer for anthelmintics from poultry shops. It was believed that one of the reasons was that farmers could not afford the anthelmintic as it was only sold in one-liter jars so that the price became too expensive. Thus, by 1993, there remained only four anthelmintic suppliers as AHDN collaborators: two SR-CRSP extension workers and two sheep traders.

Although both SR-CRSP extension workers' and traders' main jobs were not disturbed by dispensing the anthelmintics, the SR-CRSP extension workers distributed more (73.9%) than traders did (26.1%). The reasons for this were: (a) as anthelmintic supplier, SR-CRSP extension workers had been recognized longer by farmers than the traders and (b) the traders had relatively less opportunity to dispense anthelmintics than the extension workers did, as they cover a wider area collecting goat and sheep at the villages.

Farmers' Perspective

In early 1993, a survey was conducted among the participating farmers in order to obtain feedback about the suppliers and the sheep performance after treatment of anthelmintics. Respondent farmers were divided into two groups: (1) farmers who bought drugs from SR-CRSP extension workers and (2) farmers who bought drugs from traders. A total of 76 farmers participated in this survey.

Farmers understood quite well the importance of anthelmintic application to their sheep. Most of the farmers (42.5%) used the anthelmintics because the farmers wished to see healthier sheep.

The survey offered a new perspective on the reasons why farmers did not buy from the poultry shops. Most of the farmers surveyed were not aware of the availability of the drugs in the shops. Moreover, farmers were reluctant to apply anthelmintics themselves. They preferred to rely on the treatment of the extension worker or trader mostly because they did not know how to use

the anthelmintics. For example, more than 60% of farmers who had been trained in using the anthelmintics preferred the extension workers and traders to apply the drugs.

The effects of anthelmintics treatment to sheep as perceived by farmers are depicted on Table 1. About 80% of the farmers perceived positive changes.

Table 1. Changes of sheep performance as perceived by farmers.

<u>Changes</u>	<u>% responses</u>
Sheep looked fatter, healthier, cleaner	35
Sheep's appetite increases	33
Faster growing	9
Decrease in sick and morbid sheep	3
Sheep were never sick	16
Farmers did not see any changes	<u>4</u>
Total	100
N:=76	

Comparison of middlemen

Since there remained only two drugs suppliers, namely the extension worker and trader, farmers were asked to compare the extension worker or trader as their supplier (Table 2 and Table 3). There was an open-ended question on the questionnaire. Afterwards, the responses were categorized. Table 2 shows the responses.

Table 2. Farmers' reasons for choosing extension worker as drug supplier.

<u>Reasons</u>	<u>(%)</u>
Got information from ORP farmers and have seen that sheep performance was good	35.2
Anthelmintics available upon credit	5.4
Has been a member of SR-CRSP for years	24.3
Being informed by non-ORP farmer	16.2
Incidentally met the extension worker at the shop	2.7
Has known the extension worker before	5.4
More confidence in the extension worker	5.4
Lives not far away from the extension worker	5.4

Table 3. Farmers' reasons for choosing trader as drug supplier.

<u>Reasons</u>	<u>(%)</u>
The trader visits the farmer frequently while asking for sheep or goat to trade	56.2
The trader offers the anthelmintics	6.3
Has been looking for the drugs for a long time	25.0
Has known the trader already	12.5
Total	100.0

Treatment fee charged by distributor ranged from Rp 250 to Rp 500. The SR-CRSP extension workers generally charged an average of Rp 350-400 while the sheep traders consistently charged Rp 500 (US\$0.25) per treatment.

Although SR-CRSP extension workers for understandable reasons (longer association and more intensive contact with farmers) were selling the majority of drugs, the traders covered a much larger area. This surprising fact proves that traders (village collectors) may be an effective means to make drugs available to livestock smallholders.

As farmers become more aware on the benefit of using anthelmintics, demand for the anthelmintics will increase and the provision of the anthelmintics to the farmer level may be critical. Since the number of field extension workers (PPL) of the livestock service at sub-district level is limited, private foundations or private companies are expected to engage in the operation of animal health care delivery system. The result of this study indicates that the scope for such private sector involvement is promising.

Conclusions

The main findings of this study can be summarized as follows:

- * farmers are able to recognize the benefits of periodic anti-parasite treatment and willing to pay for the anthelmintics. This is also shown by the rapid expansion of the AHDN beginning with 24 farmers and growing within three years to 76 farmers.

- * despite selling at a slightly higher price, traders were a remarkably effective way to sell drugs to farmers. It is recognized that over time the helminths become resistant to the anthelmintics. For instance, albendazole, which has been used for several years for anthelmintic treatment in Sei Putih, became less effective against helminths (parasites). Consequently, in the future, the farmers will be asked to use other drugs which are more expensive.
- * despite repeated demonstrations, farmers are reluctant to apply the drugs themselves. Training for farmers is essential to improving farmers' skill pertaining to the technology.
- * selling drugs via poultry shops would require (a) an intensive information campaign, (b) the sale of drugs in smaller packages, and (c) convincing farmers to apply the drugs themselves.
- * the local government agents were ill-motivated to participate in the AHDN. They saw the drug distribution via private channels as undesirable and even illegal as it diminished their status as a sole (and ineffective) supplier.

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