

ANIMAL PRODUCTION THROUGH WOMEN'S GROUP – GOAT – SHARING SCHEME

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ABSTRACT

This paper is focused on development of animal production through women's group applying the goat-sharing scheme, a university based livestock development project to enhance small ruminant production in a rural community. The women groups were set up at Kwarasan, Gombang and Wonolagi villages in Gunungkidul, Yogyakarta, Java, Indonesia. The members of the group consist of 30 to 35 women. The objectives of the scheme were to alleviate farmer's poverty, to increase goat population at the village and to increase motivation of farmer in goat management. A physical benefit to the members involved in the goat-sharing scheme is the ownerships of the kids. The number of kids kept by the participants depends on the number of kids born from the first two pregnancies. After which the participants also owns the original female goat and all subsequent offspring. By 2004, the goat-sharing scheme had been running for over five years for Kwarasan, and three years for Gombang and Wonolagi. The majority of the female goat allocated within the scheme had already in the third to fourth (Gombang and Wonolagi) or the fifth to six (Kwarasan) pregnancies. The other benefit of the goat-sharing scheme is production of manure, which is a very useful by products of goat keeping. It was rare for any of the members to sell goat faeces for cash because the manure has more valuable as a fertilizer for crops. At the time being, the total number of goats from three villages are 1200 heads. When the compost produced was applied to marginal land, there were around 75 ha of marginal land being improved per year by utilization of the organic fertilizer. The programmed of animal production through goat-sharing scheme, are able to give rural women access to resources, information, and enable them to the increase goat productivity, which therefore benefiting their families financial security.

INTRODUCTION

This paper is a way for disseminating a system on development of animal production through women's group, based in Kwarasan, Gombang and Wonolagi villages in Gunungkidul, Yogyakarta, Java, Indonesia. The animal's use in this activity are goats; in the goat-sharing scheme a university based livestock development project to enhance small ruminant production in rural communities.

The goat-sharing scheme was developed when economic crisis in Indonesia, during 1997-1998. The economic pressure, such as rupiah devaluation led to the

increase of prices of various agricultural products. But, the high inflation also led to the increase of cost of living (Booth, 2002). As these pressure are having an effect on the country, the number of poor people in Indonesia is increasing in 1999. 27.1% of the population was below the national poverty line (World Bank, 2004). According to FAO (2002), women are responsible for over half of the world's food production. In most less developed countries, women produce between 60 and 80 % of the food, and play a large role in the contribution to household food security. Women, however, have less access to resources, such as land, education or information from extension services (Wahyuni *et al.*, 1992).

The programmed of setting up animal production through goat-sharing scheme, in Kwarasan, Gombang and Wonolagi villages in Gunungkidul, expected give rural women access to resources and information and may enable the to increase goat productivity (Kustantinah *et al.*, 2002), therefore, benefiting their families financial security.

OBJECTIVE

The long term aim of animal production through goat sharing scheme was to alleviate farmers poverty, the specific aims are: increasing goat population at the village, increasing motivation in goat management, giving training in self reliance, increasing decision making ability, giving access to legume trees as goat feeds.

MATERIALS AND METHODS

The programmed are conducted by involvement of members women farmers group that are chosen from three villages, i.e.

Kwarasan that is situated in Nglipar, Gunungkidul, Yogyakarta, Java. There are three sections to the village; Kwarasan wetan, Kwarasan tengah and Kwarasan kulon. Each has an elected headman. There are approximately 513 households in Kwarasan, which has a population of 2,389. Crops grown by villagers include rice, peanut, cassava, corn and soybean. These crops are grown on land surrounding the house, or on piece of land within the village boundary. The Kwarasan women's group consists of 32 members with the average age of the members are 47 years, which is ranging from 30 to 56 years old. The formal education of the members are mainly, primary school, just 27 % of them have been completed primary school. The second village is Gombang which situated in Ponjong, Gunungkidul, Yogyakarta, Java. There are approximately 150 households in Gombang, which has a population of 500. Similar to Kwarasan, crops grown by farmers include rice, peanut, etc. The Gombang women's group so called Lestari, consist of 30 members, where the age of members slightly younger than Kwarasan, ranging from 25 to 55 years old. With the education of members are quite similar to Kwarasan which is mainly primary school and the members has completed primary school just 17% from the totals number of members. The third village is Wonolagi. Different the other two villages, Wonolagi is situated in the bank of "Oya" river. This village situated in Playen, Gunungkidul, Yogyakarta, Java. The situation of the village is in hillside, next to the district woodland. There are approximately 45 households in Wonolagi, which has a population of 130. The Wonolagi women farmers group so called "Sumber Rejeki" having 35 members.

At Kwarasan, the goat-sharing scheme started in January 2001, while Gombang and Wonolagi started in April 2003. The goat management system based on the

principle of Gaduhan (Sharing) was set up within the women's group, in which the majority of the women were given either one or two female goat (s) (doe) for Kwarasan and two female (s) (doe) for Gombang and Wonolagi. Each ten females there is available one buck for served. Each member of the group had to sign a legal agreement stating the age, sex, weight and price of goat received from the project, that they agree to the system of goat sharing and that they will manage the goats to the best of their ability. Before the female goats reached their second pregnancies, Animal Nutrition and Feeds Science Department/Gadjah Mada University (ANFS/GMU) are the principles owner of the goats, and the participants are the second owner. After second pregnancy, the farmer becomes the sole owner of the female goats and half number of the kids.

The systems include introduction of the legume trees, improvement of goat's pens and introduction of the goat.

RESULTS AND DISCUSSION

In Kwarasan, the women's group consists of 30 members. This group has a head man and meet once a month. In this area, the Forestry department, Yogyakarta has given the group access to the close woodland, in which they grow King grass, Cassava and Peanut (the leaves are used to feed their goats). Individual members are responsible for managing their own plot within this group area of woodland. In Gombang village, similar system to Kwarasan were used. The women's group consists of 30 members while in Wonolagi, the women group consists of 35 members.

Plantation of legume trees and pens improvement

All members of the women's group were given legume seeds trees which are Gliricidae, Calliandra, Leucaena and Sesbania. The majority of these trees were growing very well, although with increasing goat population in the village, there is still lack of feed during the dry season. It was expected that farmers collect the seeds produced for further seeding in other areas. The goat sharing scheme has given the opportunity for each member of the women's group to borrow two hundred thousand rupiah, equivalent of 18 euro, interest free, from ANFS/GMU to build or repair an existing goat pens. Each month, members who borrowed money, pay back 10.000 rupiah, equivalent of 90 pence of Euro, to the head of the group or treasury of the group, than passed it to the goat sharing scheme co-ordinator. This fund will be transferred to other new member to build or repaired goat pens. So far, there have not been any problems with repayment of the loan given to group members. When the group finished pay back, the goat sharing scheme will be offered the last two-month of monthly repayment to the groups as a cash support.

The sharing system

A physical benefit to participants involved in the goat-sharing scheme is the ownerships of the kids. The number of kids kept by the participants depends on the number of kids produced from the first two pregnancies. After which the participants also owns the original female goat and all subsequent offsprings. In 2004, the goat-sharing scheme had been running for over three years for Kwarasan and one year and a half for Gombang and Wonolagi. The majority of the female goat allocated within the scheme had already reached two or four pregnancies.

Table 1: Nine scenario's out linings the possible combinations of the number of kids kept by a farmer ad / or given back to the goat – sharing scheme from the first two pregnancies of one goat.

Scenario	Number of kids produced in pregnancy I or II		Number of kids kept by farmer in pregnancy I or II		Total number	Number of kids kept by scheme in pregnancy I or II		Total number
	I	II	I	II		I	II	
1	1	1	0	0	1 (1*+0)	1	1	2
2	1	2	0	1	2(1*+1)	1	1	2
3	1	3	0	2	3 (1*+2)	1	1	2
4	2	1	1	0	2 (1*+1)	1	1	2
5	2	2	1	1	3 (1*+2)	1	1	2
6	2	3	1	2	4 (1*+3)	1	1	2
7	3	1	2	0	3 (1*+2)	1	1	2
8	3	2	2	1	4 (1*+3)	1	1	2
9	3	3	2	2	5 (1*+4)	1	1	2

Note: * number of doe (female)

Table 1. shows the allocation system of kids to the farmer and to the scheme, depending on number of kids produced from each pregnancy. If in each pregnancy only one kid is produced, the two kids from the two pregnancies are belonging to the scheme when they have reached a mature weight (one will be rolling to new members). If twin or triplets are produced, in either the first two pregnancies, the farmer may keep one or two kids per pregnancy (Table 1). If any kids produced are male, the farmer sells the male and buys a female to give back to the scheme. Male goats usually sell more than female goats. Any difference in cash received is given to the participants, and the participants should give a 10% of the price to the women's group. For each 10 females goats, there is available one buck for mating. When this ten of females has pregnant twice, the buck could be sold. The 50% of the cash received will be given to the participants, 10 % for women's group and 40 % for the scheme. This system is built on trust between members and ANFS/GMU staff.

In the three villages, the increasing of goat population were quite well, for example, for Kwarasan, the goat population were increased more than 400% from the beginning of the scheme. When the scheme was start in Kwarasan, the introduction of the goats were 53 heads, than in 2005, the goat population were 396 heads which consist of live goat parents (does) 48 heads (mortality 7%) and kids live were 287 heads (mortality is 16%). The constraints of the scheme in Kwarasan was higher kids mortality. The kids died mainly after parturition and before weaning time, and mainly occur in the beginning of rainy season. While in Gombang and Wonolagi, at the time being (2006), the goat population were 432 and 410 heads, consecutively. When the scheme was started the population of the goats were 63 heads (Gombang) and 73 Heads (Wonolagi).

The mortality of the kids were lower compare to Kwarasan, which is <10%, the kids died occur mainly in the beginning of the rainy season and before weaning timeThe goat kept by farmers in average is around 12 to 16 heads per members for Gombang and 8 to 19 for Wonolagi. (Table 2).

Part of benefits from the farmer the ownerships kids and does (after two pregnancies) is manure production.

Table 2: List of member women co-operative group at Gombang (a) and Wonolagi (b) villages

No	Name of the Farmer	Number of goats			Name of the Farmer	Number of goats		
		April 2003	2006	Died		April 2003	2006	Died
1	Suwarsi	2	15	2	Parinem Wagiyono	2	15	0
2	Lastri	2	16	0	Sutiyem Sakiman	2	15	2
3	Dwi Astuti	2	14	0	Surani Wakiman	2	16	0
4	Kinah	3	15	1	Ningsih Tumino	2	19	1
5	Sudarmi	2	16	0	Wakinem Sagimin	2	10	3
6	Surtinil	2	16	0	Rubinem	2		
7	Mujilah	2	13	1	Ngatiman		10	1
8	Tukilah	2	16	1	Parsiyem	3	12	3
9	Satirah	2	14	1	Marmorejo Saiman	2	12	1
10	Laksmi	2	15	1	Pawirodimejo N	2	11	3
11	Tatik	3	15	0	Tukiyem Jaimin	2	13	1
12	Suparmi	2	14	0	Jumiyem Sabari	2	12	2
13	Riyanti	2	12	0	Tarti	2	15	1
14	Mukirah	2	16	0	Purwanti Sudarso	2	12	0
15	Partilah	2	12	0	Ngadiyah	2	8	2
16	Sarti	2	13	0	Painah Poniran	2	12	2
17	Wiyem	2	14	0	Supin Samingin	2	12	0
18	Raminten	2	12	0	Tarmi Sumiyanto	2	14	1
19	Suparsih	3	12	0	Marinem Kawikan	3	15	0
20	Wasilah	3	12	0	Pardiyem Sukardi	2	16	2
21	Mu'inah	2	14	1	Warini	2	14	2
22	Siti Bilal	3	15	0	Sukarti	2	12	1
23	Surati	3	16	2	Karsinem Sukiran	2	14	1
24	Watirah	2	16	0	Musinem Samani	2	8	1
25	Sumini	2	15	1	Saryati Daliyo	3	12	2
26	Ponem	2	18	1	Ciptowiyono	2	14	0
27	Tumi	2	16	1	Suminem	2	16	0
28	Wakirah	2	12	1	Poniyem	2	18	1
29	Sutiyem	2	12	3	Wiryojejo	2	19	2
30	Sanem	2	16	2	Wajiyem Wagiran	2	17	1
31					Iyem/Wahiyem	3	20	0
32					Samiyem Muhadi	2	16	0
33					Karsoutomo	2	12	1
34					Suparmi Sugiyono	3	12	2
35					Imorejo	2	18	1
					Ponijem	2	12	0
	Total goats	63	432	16		73	410	38

The manure production is also one of the purposes of keeping goats. The production of manure is a very useful by-products of goat keeping, and collection of manure is made easier by housing the goats in a raised goat stall. It was rare for any of the members to sell goat faeces for cash, this because the manure has more valuable as a fertilizer for crops. This fertilizer is a one of potential impact of goat-sharing scheme. In 2006, the total number of goats from three villages is 1292 goats. When we calculate the manure production is around 400 g/head/day, so the manure available is 400 x 1292 goats x 365 day = 188,632 kg /year, when conferted to the compost produced (consiste of mixture between manure and remaining feed) it is equal to 2 x 188,632 kg = 377,264

kg (377 tones) compost as fertilizer, if one hectare need 5 ton of compost/year as an organic fertilizer, there is around 75 ha of marginal land improved per year by utilization of the organic fertilizer.

CONCLUSION

The goat-sharing scheme has given the women members an opportunity to keep animals that can contribute to household financial security within a rural community.

The goat-sharing scheme is an example of a small development projects to increase the livelihoods of poor farmers while empowering women.

ACKNOWLEDGEMENTS

The authors acknowledge the DFID-British Council Indonesia for financial input under Higher Education Link scheme between Department of Animal Nutrition and Feed Science Faculty of Animal Science, Gadjah Mada University and International Feed resources Unit, Macaulay Land Use Research Institute, Aberdeen UK and Department of Agriculture and Forestry, University of Aberdeen UK.; Rotary club of Yogyakarta, Rotary Club of Westhill and Rotary International

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