

ROLE OF WOMEN IN LIVESTOCK PRODUCTION: A SOCIO-ECONOMIC ANALYSIS OF WOMEN, ANIMAL HUSBANDRY IN SOKOTO STATE.

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Target Audience: Livestock economists, Agricultural planners, Womens's groups

ABSTRACT

The study focused on the role of women in livestock management with emphasis on milk production. Data for the study was collected via structured questionnaire from 120 women livestock farmers in five local governments of Sokoto state. The result of the analysis shows that majority of the women were in age range of 26-35 years and were married with virtually no western education, except quaranic education. Besides, they raised cattle, sheep and goats at different combination of which lactating cows, ewes and she goats constituted the greatest proportion per herd. The study also revealed that for both dry and wet season, labour requirements for herding feed preparation and sanitation were high. Furthermore, the average costs of the women livestock farmers were N8159 and N4586 in the dry and wet season respectively. Gross margin per farm for wet season outweighed that of the dry season by about 14%. Common diseases of livestock in the area include foot-rot disease. Provision of well developed grazing land drugs improved veterinary centres and better breeding stock where recommended as provision for the enhancement of livestock production of women in the study area.

Key words: Women livestock farmers, gross revenue, foot-rot disease, Sokoto state.

DESCRIPTION OF PROBLEM

Under peasant agriculture, animal husbandry contributes significantly to the economic activity of households. Livestock keeping forms an integral part of households to the extent that the economic benefits from livestock amount to appreciable contribution of the welfare of farm families. Fundamentally, the task of animal rearing (in areas of feeding, housing and health management) as either part time or full time occupation is undertaken by both men and women. Though women may not necessarily be involved in animal grazing exercise, they are however involved in other levels of animal production. The involvement of women basically in livestock production activities became even more pronounced as in the case of securing a steady and independent source of cash income (1). The necessity of survival, especially for those with large families and/or with husband who are underemployed or unemployed have forced women to be actively involved in wide range of economic activities. In animal husbandry, women participate in the care of animals and are predominantly responsible for processing and sale of animals and animal

bye products (2). (3 and 4) reported that about 50% both of African rural women keep livestock. The contribution of women therefore in animal husbandry as in other agricultural practices can not be overemphasised.

Most literature on women in agriculture emphasizes their role with respect to welfare, living condition and their economic activities. (5) affirm that rural women bear a significant proportion of the work load in farming, animal care, food processing and distribution. Besides, he observed that all the activities of women put together amount to between 60-90% of agricultural labour. Confirming this further, (6), estimated the daily work load of rural women in developing nation to fall between 15-16 hours. (7) pointed out that women farmers exercise firm control over agricultural production and sale even in household where husbands are present, they decide on what crop to grow, employment of labour, marketing of their produce and purchase of household needs.

This study therefore aims at exposing the contribution and role women perform in livestock production in the Northern Western part of Nigeria. More specifically, the study examine the socio-economic characteristics of the women, the structure, composition and size of their herds, heir cost and returned and problems encountered, in sokoto state.

MATERIALS AND METHODS

Data collection and sampling

The study was carried out in five local government areas (Yaba, Wuruo, Tangaza, Dangoshunni and Sokoto) of Sokoto state in which farming stands out as the major occupation of the people and animal husbandry to a larger extent a common practice. Data used for the study was primary in nature. These were collected with designed questionnaires from 40 randomly sampled women livestock farmers in each local government area surveyed. Thus a total of 120 farmers were selected. The lack of an adequate frame of women farmers in the study area necessitated the need for a purposive selection of 40 farmers from each of the five local government area selected out of a total of number twenty three local government areas in the state for study. A pretest of the designed questionnaire was however made on a few farmers in order to access its workability. Information sought for include among others, demographic and socio-economic characteristics of the women farmers, type and number of livestock kept by the farmers, type and use of labour, input resources on livestock produced, output of livestock, problems encountered in the course of production, e.t.c. Necessary corrections and adjustment was made on questionnaires before finally administering them.

Method of analysis

Descriptive, explanatory statistics, and gross margin analysis were used to analyse field survey data.

The gross margin model (Richard et al., 1976 and Adegeye et. al., 1985) is given as:

$$GM = \sum (P_i X_i - C_i X_i)$$

Where P_i = Unit price of dairy product
 X_i = Quantity of ith dairy products
 C_i = Variable cost incurred in producing the ith dairy product.

RESULTS AND DISCUSSION

Socio-economic characteristics of women livestock farmers

Table 1 gives a summary of the socio-economic status of the sampled livestock women farmers. Forty seven percent of the farmers are between the age range of 26-35 years, while 39%, 8% and 7% fell within the age range of 36-45 years, 46-55 years and 15-25 years respectively. A greater proportion (61%) of the farmers were married, an indication that the business plays a significant role in supporting the family. Seventy nine percent of the farmers had quanic education, none had Western education while 21% had both forms of education. This can be attributed to the culture and social values of the study area that place strong emphasis on the purdah system for women preventing many of them from going to formal schools.

Eighty two percent of the farmers rear animals only while 18% combined other professions such as trading and civil services jobs with animal rearing (Table 1). This distribution is not unconnected with the culture of the people where the norm is for women not to be engaged openly in commerce and other outdoor activities (i.e. the purdah system). Fifty four percent of the farmers raise animals for saving purposes. This could be attributed to the inaccessibility of the farmers to banking facilities, hence the investment in livestock rearing as a sort of savings.

Herd size and composition

Table 2 shows the average size and composition of herds kept by women farmers. The table reveals that about 78% of the total herd kept by the farmers were cattle, while the remaining 22% was a combination of sheep and goat. Notwithstanding, 65% of cattle being kept by farmers were cows, indicating that the women are dairy farmers and 13% (10% bulls and 3% steers) of the cattle were males. The low percentage of male cattle could be as a result of their frequent sale for revenue generation. Also 39% of sheep and goats kept were females while about 19% were males.

Production system

All farmers use semi-intensive system of livestock production because of its inexpensiveness and ease of operation. The farmers employ two categories of labour in their livestock production system: family and hired labour. Hired labour was used mainly for grazing while family labour was used for all types of activities such as milking of

animals, mending and cleaning of animal pens, preparation of cheese and butter, gathering of crop residues for feeding animals etc. Table 3 presents the various management operations of the women farmers.

Fifty four percent of the farmers engaged their children in animals grazing. This can be attributed to the fact that rural children were either engaged in farming or grazing animals since majority of them do not go to school. The mandays of labour were spent on milking activities in both the dry and wet seasons are 9.46 and 8.46 respectively. (Table 3). On the other hand, 74.14 and 35.20 mandays of labour were used for feed preparation in the dry and wet season respectively. The reason for this disparity is that animals need more supplementary feeding in the dry than in the wet season. The reverse is the case for pen clearing activities, as the of abundant forage crop during the wet season increase animal ingestion and consequently defecation. Also 273.75 and 228.12 mandays of labour were

used respectively for herding the animals in the dry and wet seasons. This is because there is less volume of fresh forage in the dry season.

Table 1: Socio-economic characteristics of women livestock farmers

| Characteristics | Frequencies | Percentage |
|--------------------------------|-------------|---------------|
| <u>Total No of respondents</u> | 120 | 100.00 |
| Age (Years) | | |
| 15-25 | 8 | 6.60 |
| 26-35 | 55 | 45.80 |
| 36-45 | 47 | 39.10 |
| 46-55 | 10 | 8.30 |
| 56 | - | - |
| <u>Marital Status</u> | | |
| Single | 15 | 12.40 |
| Married | 73 | 60.80 |
| Widowed | 32 | 26.80 |
| <u>Educational Status</u> | | |
| Quranic education | 95 | 79.10 |
| Western education | - | - |
| Both | 25 | 20.80 |
| Occupation(s) | | |
| Livestock farming only | 98 | 81.60 |
| Livestock and trading | 8 | 6.60 |
| Livestock & civil service | 14 | 11.60 |
| <u>Purpose of L's farming</u> | | |
| Prestige | 9 | 7.60 |
| Savings | 65 | 54.10 |
| Commercial purpose | 9 | 7.60 |
| Prestige and savings | 37 | 30.50 |

Source: Field Survey (1996).

Hand milking method was used by all farmers in milking the animals (cattle) once in the morning and afternoon. With an average lactation period of three months/cow, 198 litres and 225 litres of milk were obtained from a cow in the dry and wet seasons respectively. Forty four percent of farmers market their milk and milk products themselves in the market relative to other place of sale probably because of the better profit margin they are able to obtain from the market.

Table 2: Average herds size and composition of women livestock farmers

| Herd Composition | Size | Percentage |
|-----------------------------------|--------------------|---------------|
| Total herd size (T.L.U) | 10.98 | 100.00 |
| Cattle (T.L.U.)* | 8.60 (3.75) | 78.32 |
| Bulls | 1.04 (1.01) | 9.57 |
| Steers | 0.33 (0.72) | 3.03 |
| Lactating cows | 2.50 (1.46) | 23.00 |
| Dry cows | 2.60 (1.34) | 23.92 |
| Heifers | 2.00 (1.6) | 18.40 |
| Calves | 2.40 (1.45) | 22.08 |
| Sheep & Goats (T.L.U.) | 2.38 (1.06) | 21.68 |
| Ewes | 4.90 (2.92) | 20.59 |
| Rams | 2.50 (1.88) | 10.50 |
| Lambs | 4.70 (3.47) | 19.75 |
| She-goats | 5.10 (2.99) | 21.43 |
| Billies | 1.80 (1.54) | 7.56 |
| Kids | 4.80 (3.13) | 20.17 |

Source: Field Survey (1996).

*T.L.U. Tropical Livestock Unit.

(.) Figures in Parenthesis are Standard Deviation

Gross margin analysis

Gross revenue per farm (sales of milk and butter) average ₦16830 and ₦14625 for the dry and wet seasons respectively (Table 4). Milk product accounted for about 82% of the gross revenue in both seasons. The women farmers spent respectively 48% and 31% of their total revenue as variable costs in both dry and wet seasons. Consequently, the gross margin for wet season (₦10,038) outweighed that of the dry season (₦ 8670) by about 14%.

Problems of livestock rearing

Production problem is health related. The most common health problem of ruminant livestock in the study area is foot rot disease. Table 5 shows 33% of the farm animals suffered from foot rot disease while 53% mortality rate was recorded for sheep. This high mortality rate observe among sheep was as a result of the feeble nature of sheep which,

Table 3: Management operations of women livestock farmers

| Operation/Activity | Frequency | Percentage |
|----------------------------------|----------------------------------|-------------------|
| <u>Type of labour used</u> | | |
| Total | 120 | 100.00 |
| Self | 15 | 11.60 |
| Children | 70 | 54.20 |
| Herdsman | 44 | 34.00 |
| | | |
| <u>Activity</u> | <u>Labour mandays per season</u> | |
| Milking | 9.68 (8.46) | |
| Feed preparation | 35.20 (74.14) | |
| Cleaning of pens housing units | 53.60 (42.81) | |
| Herding | 228.12 (273.75) | |
| Marketing | 26.07 (26.07) | |
| | | |
| <u>Milk sale and utilization</u> | <u>Quantity per season</u> | |
| Amount sold (liters) | 198.00 (171) | |
| Amount consumed (liters) | 27.00 (27) | |
| Butter obtained (kg) | 7.88 (5.88) | |

Source: Field Survey (1996).

(.) Figures in parenthesis are for dry season and the other for wet season.

Table 4: Average gross margin of women livestock farmers

| Item | Dry season | | Wet season | |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|
| | Per day | Per season | Per day | Per season |
| Total Revenue | 187.00 | 16,830.00 | 162.50 | 14,625.00 |
| Milk | 154.00 | 13,860.00 | 132.50 | 11,925.00 |
| Butter | 33.00 | 2,970.00 | 30.00 | 2,700.00 |
| Total Variable Costs | 90.66 | 8,159.40 | 50.96 | 4,586.40 |
| Supplementary feed | 85.00 | 7,650.00 | 45.00 | 4,050.00 |
| Medical expenses | 1.20 | 108.00 | 1.50 | 135.00 |
| Wage of herdsman | 1.60 | 144.00 | 1.60 | 144.00 |
| Transportation cost | 2.86 | 257.14 | 2.86 | 257.14 |
| Gross Margin | 90.34 | 8,670.60 | 111.54 | 10,038.60 |

Source: Field Survey (1996).

Table 5: Problems of livestock husbandry among women livestock farmers

| Problem | Frequency | Percentage |
|---------------------------|------------------|-------------------|
| Disease/Pest | 68 | 100 |
| Running eyes | 19 | 27.9 |
| Foot-rot | 23 | 32.8 |
| Diarrhoea | 19 | 27.9 |
| Running eyes and Foot-rot | 7 | 10.4 |
| Mortality | 17 | 100 |
| Cattle | 1 | 5.8 |
| Sheep | 9 | 52.9 |
| Goats | 7 | 41.3 |
| Control Measure | 113 | 100 |
| Veterinary Services only | 14 | 12.4 |
| Local Medicine only | 13 | 11.5 |
| Both | 86 | 76.1 |

Source: Field Survey (1996).

unlike cattle and goats are more hardy and tolerant to adverse ecological conditions. Twelve percent of the farmers treat their animals in veterinary clinics only while 76% employ both veterinary clinics and local medicine. The substantial percentage of the respondents reveals that there is a growing awareness of the importance and potency of modern veterinary medicine.

CONCLUSION AND APPLICATION

The results of the study attest to the relevance of women in livestock sub-sector as noted in many other activities of agriculture. Their involvement in livestock management is purely for milk production which have been shown to be profitable in the analysis done. Therefore, it is imperative that the women dairy farmers in the area of study be assisted, adequately encouraged and motivated to be more productive. Programmes and projects that would remove the bottlenecks the women encounter in production process, include the provision of good and well developed pasture/grazing land, drugs, veterinary facilities and medication, and better breeds of animals that are prolific and disease resistant animals as foundation stocks. More veterinary centres should be established in rural areas where local farmers can easily obtain health care for their animals.

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