CONTRIBUTION OF DAIRY FARMING TO HOUSEHOLD WELFARE IN EDU LOCAL GOVERNMENT AREA OF KWARA STATE, NIGERIA

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Abstract:

The study was conducted in Edu local Government Area of Kwara State to analyze the contribution of dairy farming to household welfare. It highlighted the socio-economic characteristics of the respondents, managements practices, , dairy products, household welfare and constraints that hindered effective production in dairy farming. Data were collected by using structured interview schedule administered on 80 dairy farmers randomly selected. Analysis of data were carried out using frequency counts and percentages. About 39.0% of the respondents were between the age ranges of 41-50 years, while 93% were male. 83.0% were educated, and 90.0% had more than five dairy cattle in their herd. All the respondents carried out management practices in dairy enterprise and mentioned the products, Milk, Cheese, Cream, Butter, Nunu, and MaisanuandOriamo are the products obtained from dairy farming. Majority (93.8%) of the respondents indicated high cost of supplementary feed and finance as the constraints that hindered production in dairy farming. The study therefore identified the need for dairy farmers to

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establish cooperative societies in order to facilitate the establishment of dairy products collecting centers and also provide the inputs such as supplementary feeds, drugs, provisions of loans, support to their members. Also there is need for extension services at affordable costs with adequate training in dairy husbandry to the small scale dairy farmers so as to raise the income accrue to the farmers.

Keywords: Contribution, Dairy Farming, Household, welfare, Edu, Kwara State.

Introduction

Livestock production systems are important component in local economies at both the national and farm household level where cattle constitute the main livestock species kept by farmers (Mlambol, et al 1998). Dairy production is one of the most important agricultural industries in Nigeria and total milk production in Nigeria is 243,423 tons while cow milk accounted for 98 percent of this production (Ali and Uche, 2003). Total stocks of cattle in Nigeria were 104,255 head and 98% of these populations were European breeds, mainly Holstein (Anonymous, 2005)

However, a decrease in total number of cows and milk production has been observed in recent years. During the period 1990-2003, cattle stocks in Nigeria decrease from 105,694 to 100,355, which was a decrease of 5.06%. In spite of a 22.15% increase in milk production per cow, milk production decreased from 48,785 to 36,263 tons per year due to decrease in the total number of cows (FAO, 2003). Even though milk production per cow has increased in the last ten years in Nigeria, milk production per cow is still rather low compared to that of European, Union (EU) countries (NLPD, 2001). The relatively low milk yield and the decrease in cattle stocks coupled with an increase in per capital income and population resulted in supply shortage in Nigeria (Tewe and Boganga, 2001). This situation becomes more critical with Nigerian accession to European Union because it seems that the Nigerian dairy production sector is not in a position to compete with European counterparts (FAO, 2003,Demircan,et al 2006).

. .Kurwijia and Hennksen (1995) reported that most of the milk available in towns is either produced in the rural or peri- urban areas or brought to urban areas by milk vendors operating within 40 km radius. Improving productivity of the dairy animals in the small holder is crucial for increased output and family welfare (Irol, 2005) .Improved management in terms of feeding, breeding and disease control is essential in productivity improvement (Mdoe and Kurolwijila, 1998).In Nigeria, private milk processing units, small creameries', also exist with a potential to expand its milk production capacity and investments related to dairy production through farmers organizations and cooperatives because of its closeness to the largest market (Demircan et al, 2006).Evidence shows that dairy production has the potential to enhances livelihood and reduced poverty in less developed countries. Delgado et al (1999) reported that dairy production contributes 60% of the total household income of dairy farmers in Nigeria were not in exception were able to meet up with their household need.

The deteriorating economic circumstances influence the rural population who mainly depended on crop production to look for alternatives sources of income to supplement the income accrue from traditional crop production practices. This study is timely and of paramount importance, this is due to the fact that most research in agricultural is geared towards other sources of income among rural population that is not livestock based. Farmers in Edu local government area who keep cattle sells milk, cheese and other dairy products to peri- urban and urban area were not in exception in supplementing their crop production income with small scale dairy farming, it was hypothesized that there is no significant relationship between socio – economic characteristics of the respondent and the contribution of dairy farming. Therefore the purpose of this study was to assess the contribution of this dairy farming to household welfare in Edu local government Area of Kwara State Nigeria.

The specific objectives are to;

1. Examine personal and socio economic characteristics of the respondents
2. Examine management practices carried out in dairy farming by the respondents
3. Identify dairy products available and income generated by the respondents
4. Determine the contribution of dairy farming to household welfare of the respondents
5. Identify problems that hindered effective production in dairy farming.

Methodology

The study was carried out in Edu local Government Area of Kwara State, Nigeria. Edu local government area shares boundary with Ifelodun local Government in the South, Pategi Local government in the East and Niger state in the North. The area also has a land area of about 1,254square kilometer and a population of 14,234 (Census, 2006). More than 90% of the population engaged in farming. The main stay of the economy in the area is agriculture (Kwara State Dairy, 2004). Edu local government area has two main climates seasons. The dry and wet seasons. The natural vegetation consists of wooded savannah and annual rainfall ranges from1,000-1,200mm while maximum average temperature is 28^0C.

A cross sectional design, in which data was collected at a single point and time (Creswell, 1994; Urassa and Raphael, 1999) was used to carry out the study. The population of the study constituted eighty small scale dairy farmers. The respondents were selected at random and structured interview schedule was used to elicit useful information on dairy farming practices of the respondents. The collected data was analyzed using descriptive statistics like frequency counts, percentages, tables and cross tabulation was done for some variables to test their relationships.

Results and Discussion

Socio economic characteristics of the respondents

Selected characteristics of the respondents are shown in Table 1. The age categories of the respondents ranged between 30-70 years with the modal class been 41-50 years and 92.5% of the respondents were male while only 7.5% were female. This implies that men have more interest in dairy farming. Similar findings have been reported by Aras and Izmirli (1996) Mulangila et al (1997) and Mollel et al (1999). About 28.8% of the respondent had no education, 15.0% had Quranic education and about 14.0% had primary education,12.5% had technical college education while 10.0%, 8.8% , 6.3% of the respondents had junior secondary school education, Grade II education, senior secondary school education and tertiary education respectively. This implies that the level of education had no effect on the dairy farming production. This conforms to the findings of Urassa and Raphael (1999). Also in Table 1, about

68.8% of the respondents depended on other activities. This implies that the dairy farming did not constitute the major sources of income. This agree with Aras and Izmirli (1996) who reported that high- income families have biased towards dairy farming , while Sarwatt and Njau (1990) and Dermican et al (2006)also reported that many people in urban areas who are mainly on salaries are now looking for alternative sources of supplementing income to meet the needs of their household. Furthermore in Table 1, about 39.0% of the respondents owned between 16-20 dairy cattle, 31.3% having more than 21 dairy cattle while 12.5%, 10.0% and 7.5% had between 11-15, 1-5 and 6-10 dairy cattle respectively. This implies that majority (90.8%) of the respondents had more than 5 dairy cattle.

Dairy farming management practices

Table 2 shows that respondents indicated supplementary feeding (100.0%), minerals (100.0%) milking (100.0%), boiling (100.0%), medication (100.0%), cotton cake feeding (92.5%), maize bran feeding (90.0%), Zero grazing (86.3%), artificial insemination (18.8%) and partial grazing (13.8%) as the management practices carried out in their dairy farming enterprise.

Dairy products

Data in Table 3 reveals the dairy products that respondents got from cattle. This include as milk (100.0%), cheese (90.8%), Nunu (85.0%), oriamo (72.5%), Cream (52.5%) and butter (42.5%) . Also the gross incomes realized from each of the product per day are respectively shown.

Contribution of dairy farming to household welfare

The study further reveals in (table 4)that small scale dairy farming contributed very much to the welfare of the household farmers involved in the enterprise. Respondents indicated that profit from the dairy enterprise was mainly used on the following needs, education (93.8%) food, (93.0%) health services, (86.3%) house furnishing (85.0%), buying television, DSTV, radio and cell phone (71.30%), investing in other business (58.8%), buying of exotic cattle (30.0%) buying of land (26.3%) motor cars (18.8%) and motorcycle (13.8%). This implies that dairy enterprise contributed meaningfully to the household welfare of the respondents. This results comply with the findings of Mlanbo et al(1998), Urassa and Raphael (1999) Demircan et al (2006) who reported that the dairy enterprises is an income supplementing to household through sale of live animals and also when slaughtered for meat.

Major problem encountered by dairy farmers

In Table 5, respondent revealed major constraints that hindered effective dairy farming production as high cost of supplementary feed (100.0%), finance (95.05), disease (86.3%), poaching (78.8%), marketing of the products (82.5%), lack of land (66.3%), lack of veterinary (61.3%) and tsetse fly infestation (18.8%). This implies that lack of finance experienced by dairy farmers hindered them in procuring more exotic breeds of cattle and supplementary feeds. The results agree with the findings of sarwatt and Njau (1990), Mlanbo et al (1998) and Urassa (1999)who found that 89% of dairy farmers were poor (small scale) and they don't have access to credit facilities for their dairy enterprise.

The results in table 6 shows that there was significant relationship between age,(x^2=41.82) sex,(x^2=36.57) occupation,(x^2=28.21) number of cattle owned, (x^2=29.47) and contribution of dairy farming at o.o5%significant level. This implies that selected socio –economic characteristics of the respondents influenced the contribution of dairy enterprise to the farmers household, due to the fact that majority of the respondent were male and they were at their active age that enable them to carry out tedious and rigorous activities involved in dairy farming as they have had the experience in activities involved in crop production.

Conclusion and Recommendation

Dairy farmers in Edu local Government area were still at their active age and mostly dominated by male with low level of literacy. Small – scale dairy farming in Edu local government area contributes greatly to the household welfare in terms of food security ,housing, income to procure other household needs and other social services. Also dairy farming was not the only source of income, farmers had other work. In order to promote and develop small scale dairy farming, there should be need for dairy farmers to establish cooperative society through which they establish dairy products collecting centers' and also provide the inputs such as supplementary feeds, drugs and extension services at affordable costs to its members. There should be provisions of loans support to small scale dairy farmers and this should be directed towards modernization of production and marketing strategies and there should be adequate training in dairy husbandry.

Table 1: Socio – economic characteristics

Age	Frequency	Percentage
30-40	15	18.75
41-50	31	38.75
51-60	24	30.00
61 -70	10	12.50
Total	80	100.00
Sex		
Male	74	92.5
Female	06	7.5
Total	**80**	**100.00**
Educational level		
No formal education	22	27.5
Primary school	11	13.75
Junior secondary school	08	10.00
Senior secondary school	05	6.25
Grade II	07	8.75
Technical college	10	12.50
Quranic education	12	15.00
Tertiary education (University, HND, OND, NCE)	05	6.25
Total	**80**	**100.00**
Occupation*		
Civil servant	10	12.50
Business	43	53.75
Farming	80	100.0
Fishing	14	17.50
Okada rider	45	56.25
Driving	32	40.0
Number of cattle owned		
1-5	08	10.00

6-10	06	7.50
11-15	10	12.50
16-20	31	38.75
21 and above	25	31.25
Total	**80**	**100.00**

Source: Field Survey 2010

*** Multiple responses**

Table 2: Dairy cattle management practices

Management practices*	**Frequency**	**Percentage**
Feeding system		
Partial grazing	11	13.75
Zero grazing	69	86.25
Hay silage		
Supplementary feeding	80	100.00
Maize bran,	72	100.00
cotton seed cake	74	92.50
Minerals (salt)	80	100.00
Milking	80	100.00
Boiling	80	100.00
Medication	80	100.00
Artificial insemination	15	18.75

Source: Field Survey 2010

*** Multiple responses**

Table 3: Dairy products

Products litre / kg	Frequency	Percentage	Gross income(N)per day
Milk	80	100.00	5,000-10,000
Cheese	72	90.000	1,500-3,000
Cream	42	52.50	1,500-3,000
Butter	34	42.50	1,200-2,500
Nunu	68	85.00	1,000-1,200
Maisanu	72	90.00	1,,000-1,200
Ori- amo	58	72.50	1,000-1,300

Source: Field Survey 2010

*** Multiple responses**

Table 4: Contribution of Dairy farming to household welfare of farmers

Contribution*	Frequency	Percentage
Income from dairy farming used for		
Children education	75	93.75
Buying of exotic cattle	24	30.00
Buying of DSTV, television , radio	57	71.25
Motorcycle	11	13.75
Motorcars	15	18.75
Buying of land	21	26.25
Food	74	92.50
Health services	69	86.25
House construction	53	66.25
House furnishing	68	85.00
Investing in other business	47	58.75

Source: Field Survey 2010

*** Multiple responses**

5: Major problems encountered by Table dairy farmers

Problems*	Frequency	Percentage
Finances	76	95.00
Diseases	69	86.25
Poaching	63	78.75
Marketing of the products	66	82.50
High cost of supplementary feed	80	100.00
Lack of land	53	66.25
Tsetse fly	15	18.75
Lack of animal care centre (veterinary)	49	61.25

Source: Field Survey 2010

*** Multiple responses**

Table 6

Test of significant relationship between socio economic characteristics and contribution of dairy farming

Variables	x2tab	x2cal	df
Age	**25.32**	**41.82***	**18**
Sex	**18.54**	**36.65***	**05**
Education	**54.23**	**14.65**	**09**
Occupation	**13.46**	**28.21***	**12**
Number of cattle owned	**10.24**	**29.47***	**15**

Data analysis results

0.05 significant level

References

- Anonymous, *Reports of Burdur Province Office of the Ministry of Agriculture and Rural Affairs Nigeria* (2003). Pp. 59.
- Ali, M and Uche, A. Dairy Marketing and Development in Africa. In Broklen, R.F. and Senalt T.P. (eds). Dairy Marketing in sub- Saharan African, *Proceedings of a symposium held on 26th -30th of November 2003 at International Livestock Centre for Africa(ILCA) Addis Ababa Ethiopia*(2003). *pp45-73.*
- Demircan, T. Binici, H. Koknarwoglu, A.R and Aktas, E Economic Analysis of different Dairy Farm sizes in Burdur province in Turkey. *Journal of Animal Science*(2006). *51 (1) pp 8-17.*
- Hanyani – Mlambo, B.T. Sibanda, S and Ostergaard Socio- economic aspects of small holder dairying in Zimbabwe. *Livestock Research for Rural Development 10 92) University of Zimbabwe. Institute of Agricultural Sciences*. (1998). Pp34-45
- Food and Agriculture Organization of the United Nation (FAOHorticultural Marketing- A Resource Training Manual for Extension Workers FAO Agricultural Bulletin 76. Rome) (2003) pp. 109-115.
- Irol, Livestock Transportation and Marketing in Sokoto state of Nigeria, *proceedings of the 39th Annual Conference of Agricultural society of Nigeria held* at University of Benin (2005). pp. 96-103.
- Aras, F .and Izmili, R. Economic Analysis of Dairy farms in Izmir province in Turkish. *Journal of animal Science* (1996). *51 (1) pp 18-23.*
- Mulangila, R.C Mtenga, L.A. Kifaro, G.C Minja, F.N.J .Schooman, I and RutamuDairy cattle Management Aspects in small holder production systems. *Proceedings of the 24th Scientific conference of LITI – TENGERU, held at Arusha, Tanzania*, (1997). *pp. 24-35.*
- Mollel, E.L Lekule, F.P., Kurwijila, R.L. Turuka, F.M and Petersen, P.H. Socio- economic study on the role of gender in small scale crop-livestock o farming in morogoro. *Proceedings of the 26th Scientific Conference of LITI –TENGERU hled at Arush, Tanzania* (1999). pp 27-34.

- Kurwijila,R. L.and Henriksen, J Milk supply to urbancentres by small scale milk producers in Tanzania. *Proceedings of a25th workshop held at Morogoro Hotel,Tanzania*.(1995) *pp34-41*
- Kwara State Dairy (2004) Ministry of Agriculture and Rural Development. *Bulletin 15 pp45*.
- Mulangilla, R.C .TDairy cattle productivity in Tanga region *M.Sc Thesis in Department of Agricultural Economics and Rural Development, University of Agriculture Sokoine, Tanzania*. (1998)pp12-23
- Mdoe, N.S. Y and Kurwijila L.R. B Economic reforms in Tanzania: Impacts on dairy production, marketing and processing approaches to increased livestock production in the 21st century. *Proceedings of the25thTSAP conference held in Holland*(1998). *pp 75-82.*
- Mlambol, B.T. Ozen, N and Olug H.H Problems of the dairy cattle production in Burdur and some suggestions to solve them in Turkish. Antalya publisher Tanzania (1998). pp 309-321.
- National Livestock Project Division (NLPD) "National Dairy Survey *Reprot of NLPD Kaduna, Nigeria*. (2001) *Pp 16-25*.
- Sarwatt, S.V and Njau, F.B. C Feeding systems for small holder dairy farmers in Morogoro sub – urban. The role and prospects of small holder livestock production in Tanzania.*Proceedings of the 17th annual conference of TSAP held at Morogoro in Tanzania*(1990).*pp56-61*
- Tewe O.O. and Boganga, M "Post harvest Technology in Nigeria livestock industry: Status challenges capacities. *A presentation at the GFAIR workshop held in 17th – 21st September 2001 Entebbe Uganda cited 2010 june 11(Availablefrom http:/www.fosdnet.Cgiar.org/post%htm.)*
- Urassa, J.K. and Raphael, E. Contribution of small scale dairy farming to community welfare in Morogoro municipality of Tanzania. (1999). Cited2010may13(Available from *http://www.fluc.org/iaup/sap.*