



IMPACT ASSESSMENT OF FUEL SUBSIDY REMOVAL POLICY IN SMALL RUMINANTS PRODUCTION IN ABEOKUTA AREA OF OGUN STATE.

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ABSTRACT

The study evaluated the impact assessment of fuel subsidy removal policy in small ruminant's production in Abeokuta area of Ogun State. Purposive sampling technique was used in selecting 60 respondents and data were collected using structured questionnaire. The results revealed that majority of the small ruminant farmers (60.0%) aged between 31-40 years had secondary education, 65% of the farmers had household size of 0-5, while the butcher had experience of 5- 25 years (46.7%) and their source of income is from personal savings (68.3%). Similarly, majority of the small ruminant farmers (93.3%) and (95.3%) encountered challenges of high cost of feed and price fluctuation respectively. Most of the respondents didn't have challenges of low patronage from customer (58.3%). Key challenges faced by respondents in the study area were high mortality rate (70.0%), high cost of medications and drugs (86.7%), high cost of veterinaries services (86.7%), scarcity of feed (83.3%), high cost in purchasing small ruminant animals (96.7%) and experiences difficulty in procuring loan and credit (68.3%). In addition, there is significantly ($P<0.05$) difference during and after subsidy era on cost and return estimate of small ruminant production. Majority (88.3%) of the respondents employed the use of local agro by products, industrial waste as feed (65.0%), uses traditional medications (66.7%) uses family as labor (58.3%) as coping strategies to mitigate the constraints of fuel subsidy removal. It is therefore concluded that there is significant effect of the removal of fuel subsidy on small ruminant farmers in the study area.

Keywords: Fuel, Subsidy, Small, Ruminant, Production

INTRODUCTION

Agriculture, which entails land cultivation for crop production and rearing of farm animals for man and industrial use, is traditionally carried out in the rural areas. The trend of crop and livestock production has however shifted to urban communities where a number of people cultivate land for crop production, mostly arable crops, and rearing of farm animals. As observed in rural communities, commonly raised farm animals in urban areas, particularly in Abeokuta communities include sheep, goat, poultry, pig, rabbits and fishes. While poultry and fishes are commercially produced in the urban areas (Bada, 2004; Aihonsu *et al.*, 2006; Apantaku *et al.*, 2016) farm animals such as sheep, goat, pig and rabbits are largely produced at subsistence level, or at most, on small scale production. Furthermore, Small ruminant production is the main source of income of farmers living in arid and semiarid regions. Sheep and goats raised in these areas are generally confronted with severe nutritional deficits during food scarcity period which exacerbate disease and health problems and consequently low productive and reproductive performances.

In addition, these advantages of sheep and goat rearing, management of these farm animals has greatly been challenged or hampered by a number of production and environmental factors where some of challenges are unavailable range land which is as a result of increasing human development activities, tenure occupation systems housing, health, feeding, high incidence of diseases is one of the major constraints associated with small ruminant production (Ben Salem *et al.*, 2018). The detrimental role of parasitic diseases play in small ruminant production has been emphasized (Ajala



2014) which could increase mortality rate, lowering of reproductive rate, weight loss and increased cost of production due to additional veterinary bills. The cost of every aspect now increases due to the recent increase in fuel subsidy.

The abrupt announcement of the end of fuel subsidies in 2012 highlighted the need for a shift in economic policies, aiming to redirect funds towards other sectors for sustained development (Onanuga, 2012). However, the removal of subsidies is a sensitive issue, often sparking societal unrest and economic instability (Sheeran, 2015). Nigeria's proposal to eliminate subsidies must be carefully assessed, considering its potential impacts on the economy and society. GH. Studies have shown that subsidy removal leads to increased transport costs and fares, impacting both agricultural and nonagricultural commodities (Olaniyi, 2016). GH. Furthermore, the agricultural sector, once the backbone of Nigeria's economy, has suffered neglect amid the dominance of the oil industry (Agu *et al.*, 2018). The withdrawal of subsidies also presents challenges such as inflation, diminished household income, and reduced competitiveness (Ocheni, 2015).

This research seeks to delve into the specific constraints faced by small ruminant farmers in Abeokuta Area, particularly in the context of the Fuel subsidy removal policy experience. By identifying and analyzing these constraints within the framework of subsidy removal. Hence the objective of this study was to assess the impact of fuel subsidy on small ruminant's production among farmers in Abeokuta Area of Ogun state is to describe the socio-economic characteristics of small ruminant's farmers, identify and analyze the key challenges encountered by small ruminant farmers in the post fuel subsidy era and examine the effect of fuel subsidy removal on small ruminant production costs and farm revenue as well as to explore strategies for mitigating the constraints imposed on the farmers as a result of the fuel subsidy removal policy.

MATERIALS AND METHODOLOGY

Study Area

The study area is Abeokuta and its environs, being the capital city of Ogun State. The city is located in the Sub-Humid Tropical Region of Southwestern Nigeria, with a boundary covering the entire Abeokuta South and parts of Abeokuta North, Obafemi Owode and Odeda Local Government Areas of Ogun State. It lies between Latitudes 7° 5' N to 7° 20' N and Longitudes 3° 17' E to 3° 27' E. Abeokuta covers a geographical land area of 879 square kilometers and has a human population of about 451,607 with an annual growth rate of 3.03% as at 2006 census (NPC, 2010). Abeokuta environment has one major river (River Ogun), which passes through and divides the city into two parts to form a dendritic drainage pattern.

Agricultural Development Programme (OGADEP) which has the mandate of providing extension

Sampling Technique

Purposive sampling procedure was employed to select small ruminant's farmers in the study through a snow-balling exercise that spans through Abeokuta area and its environments where Sixty (60) questionnaires were administered.

Sampling Size

Purposive sampling technique was used in selecting 60 respondents for the study.

Methods of Data Collection and Analysis

Data were collected from small ruminant farmers in Abeokuta area using Structured questionnaire. The surveys covered quantitative aspects of small ruminant farming, including production practices, challenges faced, and economic implications post-subsidy removal. Descriptive statistics were used to describe the social economic characteristics of the small ruminant farmers, identify and analyze their key production challenges as well as the coping strategies to mitigate against the effect of the fuel Subsidy removal.



Effect of Fuel Subsidy REMOVAL on production Cost and Returns in Small Ruminant Production.

Budgetary analysis was conducted which involved subsidy era and subsidy removal era in the small ruminant's production horizon. The Gross margin (GM) model specified for these two eras and their differences evaluated statistically.

The GM model is given as

$$GM_i = T.R_i - T.VC_i$$

Where i = for the subsidy regime and

ii = Post subsidy regime

Gross margin analysis conducted for the small ruminants marketing enterprise, using the model specified this;

$$GM = T.R - T.VC$$

Where GM = Gross margin (#), representing the marketing surplus between the value of stock sold (T.R) and the total cost of stock (T.V.C). The total cost of stock includes the actual cost of the live ruminant at the purchase point (farm gate), the cost of transportation, cost of feeding prior to sales, cost of medication and other imported cost for keeping the livestock fit and healthy while awaiting their sales off at the stalls.

(For ruminants that actually got involved in the rearing of the livestock themselves, the cost of production up to the point of sales shall be taken as the proxy for the cost of stocks offer for sales added to other additional cost incurred while in stall/pen awaiting a final buyer).

Therefore, in the case of small ruminant marketing, the Gross margin model could be conceptually expressed as

$$\text{Marketing margin} = \text{Sales Value} - \text{Cost of stock}$$

Where:

Sales Value = Revenue/income accruing from sales per unit of small ruminant (Livestock)

Cost of stocks include livestock purchase or production cost, and all other associated cost (Marketing margin = Sales Value - Cost of stock) between the time the livestock is offer for sale and the point of final purchase for slaughter.

Test of Statistical Difference

Using the differences in the mean values of GM₁ and GM₂ were used to determine if there is significant differences in the Gross margin values of the two production regime.

$$t = \frac{GM_2 - GM_1}{S.D_1 - S.D_2}$$

Where GM₂, GM₁ and S.D₁, S.D₂ are the mean and standard deviation values for the two-production regime

RESULTS AND DISCUSSION

Socio-economic Characteristics of Small Ruminants' Farmers in the Study Area

The results obtained for the socio-economic characteristics of small ruminant's farmers in the study area is presented in Table 1. The results revealed that majority of the small ruminant farmers (60.0%) aged between 31-40 years while the least percent were recorded for those small ruminant farmers within the range below 30year of age. With respect to sex, 73.3% of the farmer were male while 26.7% were females. Most of the respondents 60.0% practiced Islamic religion and were married (90.0%). The survey also showed the level of education of the small ruminants' farmers as 33 (55.5%) having secondary education followed by primary education (33.3%) while the least was tertiary (11.7 %). Majority of the small ruminant farmers household sizes of 0 -5 household sizes while majority (68.3%) source of their income is from personal source . In reference to the years of experience in small ruminant farming business 46.7% had 5 -25years

The result also revealed that most of the small ruminant farmers were male which was similar to the findings of Adebayo and Ajayi (2018) who suggests that men take the lead to initiate and acquire small ruminants for rearing, but not withstanding, all in the household's members take care of the farm animals, providing them feeds and ensuring their safety. The result on the age bracket 31-40



years constituted the majority of the small ruminant farmers' population agrees with the findings of Fabusoro *et al.*, (2017) who opined that rearers of sheep and goat in the urban communities of Abeokuta, Ogun State were young. In view of this, the respondents were inferred as dynamic with vigor to carry out the herculin tasks of sheep and goat rearing. Meanwhile, the level of education did not significantly influence the approach of these farmers towards the production and rearing of small ruminants has most of them have time for the care and management of small ruminants. High percentage of married farmers were recorded in the present study which was in agreement with Kachalla *et al.*, (2016) who reported that most of them would strive hard in order to have high productivity because of the responsibilities to perform within their household

However, it was noted from the survey the majority of the farmers have between 5 to 25years of experiences with their personal savings to run the business. This indicated that majority of the respondents have high knowledge of small ruminants' production due to their experience in the activities while some households take up crop cultivation as a measure to augment the means of meeting their needs. (Ismaila *et al.*, 2015).

Table 1: Socio-economic Characteristics of Small Ruminants in the Study Area

Variables	Frequency	Percentage
Age		
Below 30	11	18.5
31 – 40	36	60.0
41-50	7	11.7
51-60	6	10.0
Sex		
Male	44	73.3
Female	16	26.7
Marital		
Single	5	8.3
Married	54	90.0
Divorce	1	1.7
Religion		
Traditional	1	1.7
Christianity	23	38.3
Islamic	36	60.0
Education		
Primary	20	33.3
Secondary	33	55.0
Tertiary	7	11.7
Ethnicity of the ruminant farmer		
English	8	13.3
Yoruba	40	81.7
Pidgin	3	5.0
Source of capital		
Personal savings	41	68.3
Inheritance	16	26.7
Cooperatives	2	3.3
Friends/relatives	1	1.7
Household size		
0-5	39	65.0
6-10	19	31.7
11-15	2	3.3
Years of experience in ruminant farming		
5-25	28	46.7
16-25	22	36.7
26-35	<u>10</u>	<u>16.7</u>
Total	60	100.00

Source: Field survey, 2024



Key Challenges Encountered by Small Ruminant Farmers in the Post Fuel Subsidy

The challenges encountered by small ruminant farmers during the production is presented in table 2. It was recorded that majority of the small ruminant farmers (93.3%) and (95.3%) encountered the challenges of high cost of feed and price fluctuation respectively. From the study area, it was recorded that most of the respondents didn't have challenges of low patronage from customer (58.3%) but recorded high rate of mortality (70.0%). It was revealed that majority of the respondents also have the challenges of high cost of medications and drugs (86.7%), high cost of veterinaries services (86.7%) and scarcity of feed (83.3%) in the study area. Moreover, majority of the farmers agreed that there is high cost in purchasing small ruminant animals (96.7%) and experiences difficulty in procuring loan and credit (68.3%)

The results obtained during the survey indicated that most (95%) of the farmers are facing the challenges of high cost of feed, high cost of veterinary services, high cost of medication and scarcity of feed. These findings confirm the assertions made by Omoike (2006) and Parker (2013) that the major problems of sheep and goats rearing include among other things, the inadequate supply of water and pasture especially in the dry season, increase in cost of feed, lack of access to drugs was the one of most serious constraints due to cost, as well as problems arising from cost from veterinary services and infrastructure.

In addition, it was also observed that the majority of small ruminant animals' farmers recorded high rate of mortality (70.0%) from their herd, having difficulty in procuring loan. This study is also in line with Babale *et al.*, (2012) who reveals that, in adequate lack of capital and diseases problems were the major factors affecting animal production in Nigeria. Adama *et al.*, (2011). Adama *et al.*, (2011) observed that one of important way to improve traditional livestock production is to associate farmers to a reliable relevant institution, like agricultural extension services, in order to educate farmers on adaptation of new technologies to reduces the mortality rate in the study area and early isolation of infected animals would limit the spread of the disease to other animals as aerosol transmission has been previously reported (Fakoya and Oluruntoba 2009). However, the farmers didn't have challenges of low patronage from customer (58.3%). This is owing to the fact that there are efficient demands for small ruminant products (Fakoya and Oluruntoba 2009).

Table 2: Key Challenges Encountered by Small Ruminant Farmers in the Post Fuel Subsidy in the Study Area

Constraints	Frequency (%)
High cost of feed	56 (93.3)
Price fluctuation	57 (95.0)
High cost of ruminant animal	58 (96.7)
Scarcity of feed	50 (83.3)
Poor products from small ruminant animals	32 (53.3)
High cost of medications and drugs	52 (86.7)
Low patronage from customer	25 (41.7)
High rate of mortality	42 (70.0)
Difficulty in credit and loan procurement	41 (68.3)
High cost of veterinaries services	52 (86.7)

Source: Field survey, 2024

Cost and Return Estimate before and after the Removal of Fuel Subsidy on Small Ruminant Farmers in the Study Area

Cost and returns estimate of small ruminant production in the study area is presented in Table 3. The data show that the estimated costs and return of sheep and goat enterprise in the study area during subsidy era was ₦1197450.00 and after subsidy removal is ₦1055476.00. it was also revealed that during the during the subsidy era the herd size that were purchased by the farmers is 19.90 with original price of ₦41017 compared to the herd size purchase 16.72 with original price of ₦50891 after the removal of fuel subsidy. The gross margin during subsidy and after the removal of fuel subsidy



were ₦324450 and ₦1055476 respectively. The value for t- test (1.317) from the result below shows that there is significantly difference from the t-value (0.025).

The cost and returns obtained during the survey indicated that there is increase in the original price of small ruminant, cost of transportation, feed, water and medication after the removal of subsidy compared to during subsidy. The findings in agreement with that of Kumar and Roy (2013) who revealed that removal of fuel subsidy will lead to increased in the cost of production which will makes farmers to purchase less of small ruminant to rear during this era. Furthermore, this finding is also in agreement with Fakoya and Oloruntoba (2009) who opined that removal of fuel subsidy will have effect on the gross margin and total revenue obtained compared to when subsidy is not removed. In addition, there is significant effect in the study after the removal of fuel subsidy

Table 3: Effect of Fuel Subsidy Removal on Production Costs and Farm Revenue of Small Ruminant Farmers in the Study Area

Cost and return	Value (₦)	During subsidy %TVC	Std. Dev.	Value (₦)	After subsidy %TVC	Std. Dev.
Herd size	19.90		12.205	16.72		10.876
Cost of ruminant offered for sales	61683		32027.79	70804		45208.45
Original price of small ruminants	41017		19789.14	50891		22927.78
Variable cost						
Animal purchase	806,238	95.75	589210.27	837580	91.40	693237.49
Cost of transportation	10225	1.21	11280.86	30525	3.37	22307.23
Feeds, water, medications	34042	4.04	62744.80	50241	5.40	65801.90
TVC	842067	100	595578.93	906432		605581.43
TR	1197450		760848.31	1055476		824690.46
GM₁	324450		382503.85	138984		523785.96

Source: Field survey, 2024

Strategies Employed by Small Ruminant Farmer to Mitigate the Constraints of Fuel Subsidy Removal

The coping strategies that were employed by small ruminant farmers to mitigate the constraints of fuel subsidy removal is presented in table 4.4. The result revealed that majority of the farmers employed the use of local agro by products (88.3%), and industrial waste as feed (65.0%). Although, (90.0%) of the respondents uses traditional means of medication and reduction in employed labor (66.7%) while some uses family as means of labor (58.3%). Majority of the respondents in the study area do ration their feed (75.0%) and rearing more female livestock (56.7%). Also, it was observed that there is reduction in the numbers of small ruminant reared (60.0%) and most of the farmers purchases small ruminants from the farm gate people (53.3%)

The result revealed that majority of the farmers incorporate different strategies to reduces the effect of subsidy removal whereby majority of the farmers highly adopted the uses industrial waste and local agro by product as feed in the study area. This might be to the increases in feed and high cost of drug which was in agreement with Evan *et al.*, (2020) who reported that here is a need for more sustainable feed production, and the utilization of novel resources is crucial. agro-industrial byproducts from the brewing industry, brewer's grain is considered a good source of protein since it has a crude protein content (CP) ranging from 19–31% on a dry matter basis (DM). Moreover, brewer's yeast is also high in protein (36– 50% on a DM basis), has a valuable amino acid profile similar to soy and has been shown to be effective in replacing maize meal in sheep and goat (Evan *et al.*, 2020).

However, in the present study there is serious concern on how farmers are unable to sell their animals which lead to consuming of livestock by the owners but the farmers reduce the cost of small



ruminants by purchasing it from farm gate and also use family labor to reduce of cost, consistent with findings in other studies conducted among communities in Ethiopia on production of small ruminant (Bati *et al.*, 2013).

Table 4: Strategies Employed by Small Ruminant Farmers to Mitigate the Constraints of Fuel Subsidy Removal Policy in the study Area.

Coping Strategies	Highly adopted F (%)	Moderately adopted F (%)	Less adopted F (%)	Not adopted F (%)
Use of local agro by products as feed	53(88.3)	7 (11.7)	-	-
Used of industrial waste as feed	39(65.0)	21(35.0)	-	-
Self-service in administering medication to livestock	55(91.7.0)	5(8.3)	-	-
Use of traditional means of medication	54(90.0)	4(6.7)	2 (3.3)	-
Reduction of employed labor	40(66.7)	17(28.3)	1 (1.7)	2(3.3)
Reducing the number of times in going to market	52(86.7)	7(11.7)	1(1.7)	-
Use of family labor	35(58.3)	24(40.0)	1(1.7)	-
Rationing of animal feed	45(75.0)	12(20.0)	3(5.0)	-
Reduction in number of livestock reared	46(76.7)	13(23.3)	-	-
Rearing more female livestock to target procreation	34(56.7)	20(33.3)	6(10.0)	-
Consuming of livestock by the farmer due to lack of buyer	36(60.0)	22(36.7)	2(3.3)	-
Purchasing of livestock at the farmgate	32(53.3)	28(46.7)	-	-

Field survey, 2024.

CONCLUSION AND RECOMMENDATIONS

The study concludes that there is significant difference before and after the removal of fuel subsidy on small ruminant farmers in the study area. Based on the findings of the study the following were recommended, that loan facilities be made available to provide adequate inputs and farmers should be encouraged to form cooperative societies that could help them to mobilize saving and increase their access to finance. Also, appropriate extension service that will respond to the peculiar needs of these farmers, especially on the aspect of providing information and knowledge on improved livestock management practices should be put in place.

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