

MARKETING OF AGROCHEMICALS IN MAKURDI BENUE STATE NIGERIA

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ABSTRACT

The study examined the marketing of agrochemicals in Benue state. Primary data was collected from 60 respondents through the use of systematic sampling technique with the aid of questionnaires/ and interview schedules. Data were analyzed by the use of descriptive statistics and marketing margin analysis. The result indicated that the agrochemical market is dominated by males (78.3%) and they were all involved in the sales of herbicides among others. The marketing margin for herbicide, pesticide and insecticide per litre was ₦55.91, ₦40 and ₦39.79 respectively. The result also revealed that the marketers were inefficient as the marketing efficiency of the herbicide, pesticide and insecticide was 35%, 29% and 24% respectively. The study therefore concludes that agrochemical marketers in the study area are inefficient and thus recommends that agrochemical marketers should put in more effort since there is still room to increase their efficiency.

Keywords agrochemicals, marketing, efficiency, margin, channels

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INTRODUCTION

Agriculture has a wide range of impact extending from food security, poverty reduction, and rural livelihood to economic growth and development (Prager and Posthumus, 2010). The agricultural sector is the fastest growing sector in the non-oil sector and it contributed 6.8% out of the 8.21% growth rate recorded in the entire sector in 2005 and if this growth rate is increased through aggressive large scale production and sustainable investment in the sector, there will be hope for food security, poverty reduction and attainment of economic development in the nearest future (Nigerian Project Agenda (NPA) 2008).

In order to increase agricultural growth there is a need to effectively apply science and technology in the form of seeds, agrochemicals, fertilizers and other agronomic practices. However, without an efficient and cost-effective supply of these inputs at the farm gate, science-based growth in agricultural productivity cannot be achieved (International Fertilizer Development Centre (IFDC, 2001). According to Haruna *et al.*, 2012, efficient market does not only link sellers and buyers in reacting to current situations in supply and demand but rather has a dynamic role to play in stimulating consumption of outputs which are essential elements of economic development.

The use of agrochemicals has become an integral part of modern agriculture and without agrochemicals alone; world food production would be reduced by an estimated 30% (Paul, 1991). However, lack of local manufacturers of agrochemicals in the country has led to the importation of these products, which has resulted in high prices of agrochemicals, high transportation cost and high risks associated with marketing of these products. These factors in conjunction with others such as adulterated agrochemicals have kept the agrochemicals out of the reach of the farmers (Oomen and Bouma 2003). Nevertheless, farmers should have easy

access to this input and at affordable prices if they are to meet with the food demand of the ever growing population. Hence, it is paramount to study the marketing of agrochemicals including the channels of distribution in order to come up with strategies to make the marketers more efficient in the distribution of agrochemicals. The broad objective of the study therefore was to examine the marketing of agrochemicals in Makurdi, Benue state, Nigeria while the specific objectives were to;

1. identify the major agrochemicals sold in the study area;
2. determine the marketing margins of the major agrochemicals in the study;
3. determine the marketing efficiency of agrochemicals in the study area and;
4. identify the marketing channel for agrochemicals in the study area.

METHODOLOGY

Study Area

The study was conducted in Makurdi, Benue State. The state is located in the southern guinea savannah zone and it lies between latitude $6^{\circ}25'$ and $8^{\circ}8'$ north and longitude $7^{\circ}47'$ and $10^{\circ}0'$. The state has a population of 4,780,389 people with a land area of 33,955 square kilometers. The state experiences two distinct seasons; the rainy season which is from April-October and the dry season which runs from November through March. The annual rainfall ranges from 1250mm in the north to 1750mm in the south while the temperature ranges from 32°C to 38°C .

Sampling Technique and Method of Data Collection

Primary data was used for the purpose of this study. 60 agrochemical marketers were selected through the use of systematic sampling technique and information were obtained with the aid of

questionnaire and interview schedules. Respondents were asked questions pertaining their socio-economic characteristics, cost and selling prices of agrochemicals, cost of transportation etc.

Method of Data Analysis

Data for this study were analyzed using descriptive statistics, marketing margin analysis and marketing efficiency analysis. Descriptive statistics such as mean, frequency and percentages and figure was used to describe the socio-economic characteristics of the respondents. It was also used to illustrate the marketing chain of agrochemical in the study area.

Marketing Margin and Marketing efficiency

In order to calculate margin, the study adopted the formula used by Enbong(2007) and is stated below;

$$MM = RP - FP$$

Where; MM = marketing margin in naira (₦)

RP = retail price in naira (₦) and;

FP = farmer/producer price in naira (₦)

On the other hand marketing efficiency was calculated using the formula used by Emam (2012) and it is stated as;

$$\text{Marketing efficiency} = \frac{\text{marketing margin}}{\text{marketing cost}} \times 100$$

Where; marketing margin and marketing cost are in (₦) respectively.

RESULTS AND DISCUSSIONS

Socio-economic characteristics of agrochemical marketers

The socio-economic characteristics of the respondents are shown on table 1. The result on table 1 revealed that agrochemical marketing is done mostly (85%) by the youths who are between the ages of 20 and 40. This implies that the marketers have the probability of tracking their consumer behavior and also adapt to the requirement of the consumers since they are in their active age and they usually have contact with the users. Also majority (78.3%) of the agrochemical marketers were males with only a few (21.7%) females. A larger percentage (60%) of the marketers was married and this connotes a higher degree of responsibility. This results are in line with Haruna *et al.* (2012) who found out that marketing activity is done mostly by males who are between the ages of 30 and 40 and are married. Furthermore, table 1 indicated that majority of the marketers had household size of between 1 to 5 persons. The household size can influence the distribution and marketing of agrochemicals in the sense that a larger household have the probability of having higher number of persons involved in the marketing process. However, this depends on the composition of the family. The result revealed that the marketers have had one form of formal education or the other. Some (50%) had secondary education while others (46.7%) had tertiary education. Only a few (3.3%) had primary education. This implies that marketers in the study area are literate and should be able to educate the farmers who are the end users on how to use the agrochemicals effectively in order to yield good results.

Table 1: Socio-economic characteristics of agrochemical marketers

Description	Frequency	Percentage (%)
AGE		
20-30	24	40
31-40	27	45
41-50	6	10
51-60	3	5
GENDER		
Male	47	78.3
Female	13	21.7

Marital Status

Married	36	60
Single	22	36.7
Widowed	2	3.3

Household Size

1-5	46	76.8
6-10	12	20.0
11-15	1	1.6
21-25	1	1.6

Educational Level

Primary	2	3.3
Secondary	30	50.0
Tertiary	28	46.7

Source; Date from Field Survey 2012

Major agrochemicals marketed and volume of sales

Table 2 shows the major kind of agrochemicals sold. As shown on the table, herbicides are sold by all (100%) of the respondents. This is connected to the fact that weeding is one of the most difficult farm operation performed. Therefore farmers overcome the difficulty through the use of herbicides and this translates to high demand of herbicides and therefore increased sales for the marketers. In addition, 98.3% and 80% also involve in the sales of insecticides and pesticides respectively. Table 2 also revealed that a most (40%) of the marketers are sell in retail while 31.7% of them are wholesalers. However, 28.3% of the marketers sell in both wholesale and retail. Thus, agrochemicals should be available to the farmers since most of the marketers sell in small quantities and most farmers are small scale farmers. This is in line with Lahiri and George (2007) who found out that most distant farms purchase their agrochemicals from retailers in the village.

Table 2: Major agrochemicals marketed and Merchants

Description	Frequency	Percentage (%)
Agrochemical*		
Herbicides	60	100
Insecticides	59	98.3
Pesticides	48	80.0
Others	7	11.7
Merchants		
Retailer	24	40.0
Wholesaler	19	31.7
Wholesaler/Retailer	23	38.3

* implies multiply response.

Source; Date from Field Survey 2012

Marketing channel of agrochemicals in Benue state

Figure 1 shows the marketing channel of agrochemicals in the study area. As shown on the figure, three marketing channels were identified. The distribution of agrochemicals from the producer through the wholesaler and retailer to the farmer, the other was directly from the producers to wholesaler then the farmers. Finally, agrochemicals marketing could be from the producers through wholesalers to cooperative societies and then to the farmers. The shorter the marketing channel the faster the agrochemicals get to the end users the farmer.

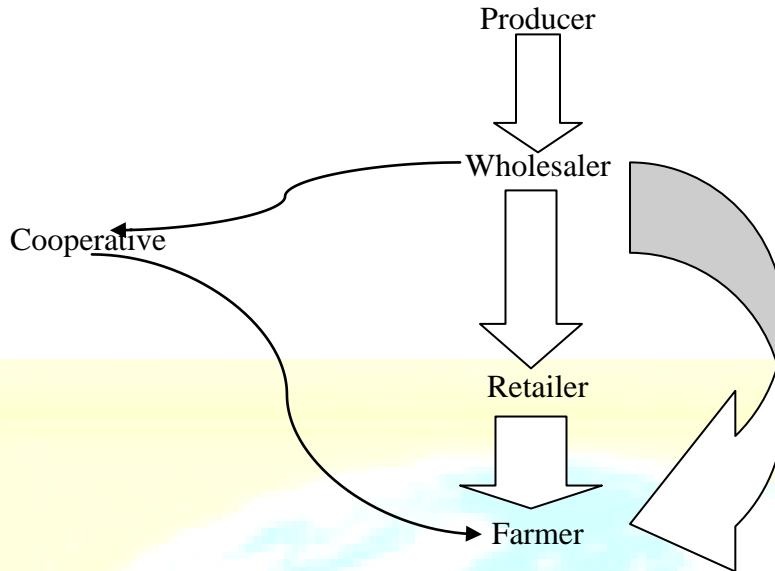


Figure 1: marketing channel of agrochemicals

Marketing margin and marketing efficiency analysis

The result of the marketing margin analysis is as shown on table 3. The marketing margin for herbicide was ₦55.91 and this was higher than the marketing margin of pesticides and insecticides which were ₦40 and ₦39.79 respectively. The higher marketing margin observed for herbicides could be due to lower marketing cost when compared to insecticides and pesticides. It is evident from the table 3 that cost price of herbicides is lower than that of pesticides and insecticides respectively. This agrees with the result of Mojtaba *et al.* (2012) who discovered that marketing margin is inversely related to marketing cost and producer price. The table 3 also revealed that agrochemical marketers in the study area were not market efficient as the marketing efficiency of all the marketers was less than a 100%. This could be a result of them being retailers and therefore not effectively enjoying economics of scale. However, the herbicides marketers were more efficient (35.09%) than both the pesticides and insecticides marketers with marketing efficiency of 28.55% and 23.58% respectively. The inefficiency in the

observed in the marketing of agrochemical is a clear indication that there is an ineffective linkage between the sellers and buyers and therefore the farmers who are the end users of agrochemicals are not adequately stimulated to use them.

Table 3: Marketing margin and marketing efficiency

Agrochemical	Average selling price(₹ /litre)	Average cost price (₹ /litre)	Marketing Margin (₹/litre)	Marketing cost(₹/litre)	Marketing efficiency (%)
Herbicide	838.33	782.42	55.91	159.35	35.09
Pesticide	880.80	840.00	40.00	140.12	28.55
Insecticides	935.12	895.33	39.79	168.73	23.58

Source; Date from Field Survey 2012

CONCLUSIONS AND RECOMMENDATIONS

The main imports of this study are that agrochemical marketing is done mostly by men who are between the ages of 20 and 30 and are married. Also, all the marketers sold herbicides while some sold insecticides or pesticides. The marketing channel of agrochemical was of 3 types; producer → wholesaler →retailer →farmer or producer → wholesaler →cooperative →farmer and producer → wholesaler → farmer. Furthermore, marketing margin for herbicides was higher when compared to that of pesticides and insecticides and the marketers of agrochemicals were found to be inefficient. Consequently, the study recommends that marketers of agrochemicals should seek marketing information that will enable them perform their marketing functions effectively and at low cost. In addition agrochemical producers should put in effort to reduce the cost price of their products so as to reduce the marketing cost and therefore increase the marketing margin of agrochemical marketers in the study area.

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