

Assessment of the Smallwalnut Producers' Opinions of the Fertilizer Market in the Twoiserkantownship, Iran

M. Abdolmaleky

College of Agriculture, Khoramabad Islamic Azad University, Iran

Abstract: This study was conducted in Twoiserkantownship to assess the opinion of walnut producers on the open fertilizer market. The study employed a multistage random sampling technique. A total of 117 walnut producers were randomly selected and administered the semi-structured questionnaire designed for the study. Descriptive statistics were used to analyze the data collected. Findings of the study indicate that (a) the private sector alone cope with the level of production and distribution activities consistent with the level of demand for fertilizer that currently exist (b) the private sector is able to distribute fertilizer to a walking distance of every producers (c) fertilizer price in a private sector is far from affordable (d) the private sector ensure the availability of the fertilizer on time to producers (e) high fertilizer cost, low walnut price and non-availability of credit to enable walnut producers purchase the fertilizer as and when due are the major problems faced by walnut producers in meeting their fertilizer requirements. Comprehensive incentive-giving policies to enhance walnut producer price; a viable credit programme to eliminate financial constraints to the purchase of fertilizer; and that the government must not continue to apply subsidy were recommended.

Key words: Opinions Assessment • Walnut Producers • Private Sector Problem • Fertilizer Market

INTRODUCTION

Fertilizer is well recognized as a major factor in increasing food production. It has become the 'backbone' of agricultural development programmes in many countries [1]. Fertilizer is considered a 'lead' practice, which predisposes the farmer to adopt other improved practices. Every improvement in varieties and agronomic practices that increases yields also increases fertilizer requirements. Increased amounts are needed to make possible potential yield increase due to improved practices and to replace additional nutrients removed from the soil [2]. Because of its strategic role in accelerating agricultural production and productivity, different policies have been put in place to promote efficient fertilizer production, distribution and use. As a result of these policies, there has been rapid growth in fertilizer consumption in developing countries [3]. The motive for government involvement in fertilizer production, procurement and distribution is that fertilizer is seen as a vital commodity that should not be left to the care of the private sector which is regarded as exploitative and unreliable [4]. The justification for government

involvement is two fold, namely: (i) to ensure availability of fertilizer on time and at fair prices through out the country, (ii) to promote increased consumption through intensive extension activities by government agencies [3]. Obviously, small-scale resource poor farmers cannot afford to pay high costs of fertilizer [5]. As fertilizer consumption increases, the inadequacies of public sector controlled procurement and distribution arrangements began to manifest in leakages and transit losses, cross border trade in fertilizer, late and non-deliveries of fertilizer to designated depots, artificial scarcity and unsustainable subsidy burden on the government [3, 6-8]. The management of the subsidy programme made the 'middlemen' the main beneficiaries while farmers pay exorbitant prices for fertilizers when and if they get to buy [9]. The persistence of the problems of fertilizer sub sector re-kindled policy makers' interest in the liberalization of the fertilizer sector. Liberalization generally refers to a relaxation of previous government restriction, usually in areas of social or economic policy. Economic liberalization is a broad term that usually refers to fewer governments' regulations and restrictions in the economy in exchange for greater participation of private entities. The argument

for economic liberalization includes greater efficiency and effectiveness that would translate to a bigger pie for everybody [10]. The problem is further compounded by the procurement and subsidization by of the fertilizer commodity by some states, such fertilizer are usually distributed through political channels and are easily diverted[11]. In Iran, The government introduced a fertilizer subsidy in 1932, up to date each 75% of the fertilizer price. Experts believed that amount of fertilizer consumption in Iran is 20 – 25% over the recommended of consumption[12]. To date, the Government and the various states are directly involved in the fertilizer procurement and distribution process. The questions that arise for this paper are:

- Does the private sector alone cope with the level of production and distribution activities consistent with the level of demand for fertilizer that currently exist?
- Is the private sector able to distribute fertilizer to a walking distance of every walnut producer?
- Is fertilizer price in a private sector dominated dominating the fertilizer subsector affordable?
- Does the private sector ensure availability of the fertilizer commodity on time to producer?
- What are the problems faced by small scale walnut producers in meeting their fertilizer requirement?

Iran has suitable climate and environmental conditions for horticultural products especially for walnut production as it is forth major walnut producer country in the world with about 7% of the total walnut production in the world. Walnut production has very important role in the rural and agricultural economy of the country with total area of over 213 thousands ha. Total production of walnut in Iran is over 379 thousands ton per year [13].

Methodology: This study was conducted in the Twoiserkan township of Iran. The township is located in the west part of Iran. The area has a suitable climate and environmental conditions for horticulture and is becoming notable especially for walnut production. The major agricultural products grown in the township include walnut, peach, apricot, glass and apple. Fertilizer application recommendation in Iran based on the mean ratio for all of the fertilizers is given as 1N, 5/0 P and 2/0 K [14]. The study employed a multistage random technique. Nearly twenty percent of the household head producers were randomly selected from a sampling frame of

600 walnut producers developed from a list of walnut producers compiled at each village, giving a total of 117 respondents. The head of the household, which in most cases was the farm manager, represented the household. Primary data were collected from the respondents through the use of semi-structured questionnaires, interviews and personal observations. The primary data collection was done between February and June 2013. Descriptive Statistics which involved the use of measures of central tendency such as mean, median, frequency distribution, ratio, percentage etc., were used to achieve the objectives of this study.

RESULTS

Sustenance of Producers' Interest in Walnut Production:

The analysis of the reasons that sustained respondent walnut producers' interest in walnut production is shown in Table 1. The study revealed that the majority of the respondents (73.33%) grows walnut mainly to feed their family. This shows that profitability is not the driving factor for walnut production.

Sources of Fertilizer to Walnut Producers in the Study Area:

The study revealed that the majority of the respondents (85.71%) sourced their fertilizer from the open rural market. Only 14% of the respondents reported that they obtained their fertilizer through government subsidized outlet. Since majority of the respondents sourced their fertilizer from the open market, this goes on to show that the private sector alone cope with the level of production and distribution activities consistent with the level of demand for fertilizer that currently exist. This finding is in line with another, that most producers did not obtain the subsidized fertilizer at the subsidized price, thus subsidy is not playing the full role that the government intended [11]. This is shown in Table 2 below.

Distance from Orchard Settlement to the Source of Fertilizer:

The analysis of the distance between producers and their source of fertilizer is shown in Table 3. The study revealed that majority of the respondents (41.03%) had a mean distance of 2.67 kilometres from their fertilizer source. The fact that 62% of the respondents sourced their fertilizer within a distance of 8.5km from their homes shows that the private sector is indeed able to distribute fertilizer to a walking distance of every producer.

Table 1: Distribution of Respondents According to the Reason that Sustains their Interest in Walnut Production.

Reason	Number of Respondents	Percentage
Food	30	25.64
Income	56	47.86
Tradition	05	04.28
Ease of Cultivation	26	22.22
Total	117	100.00

Table 2: Distribution of Respondents According to Sources of Fertilizer

Source of Fertilizer	Number of Respondents	Percentage
Open Rural Market	100	85.71
Government Subsidy	13	14.29
Total	117	100.00

Table 3: Distribution of Respondents According to Distance from GardenSettlement to Source of Fertilizer

Distance (km)	Mean Distance (km)	Number of Respondents	Percentage
0-5	02.67	48	41.03
6-10	08.5	24	20.51
11-15	14.6	21	17.95
16-20	17.5	24	20.51
Total		117	100.00

Table 4: Distribution of Respondents According to their Opinion on Fertilizer Price

Opinion	Number of Respondents	Percentage
Fertilizer Price is High	115	98.29
Fertilizer Price is Reasonable	2	1.71
Total	117	100.00

Table 5: Distribution of Respondents According to their Opinion on the Timeliness of Fertilizer Availability

Opinion	Number of Respondents	Percentage
Fertilizer Available on Time	93	79.07
Fertilizer NOT Available on Time	24	20.93
Total	117	100.00

Table 6: Multiple Response Table of the Problems Faced by Small-Scale Walnut Producers in Meeting their Fertilizer Requirement

Problems	Number of Respondents	Percentage
Low Walnut Price	89	76.07
High Fertilizer Cost	88	75.21
Lack of Credit Facilities	55	47.01
Transportation Problems due to Bad Roads	14	11.97
Trouble with the Police	03	02.56

Fertilizer Price: The analysis in Table 4 revealed that more than 98% of the respondents are of the opinion that fertilizer price is on the high side. Producers consider fertilizer as unaffordable because of its high price. This result has shown that while the private sector ensures availability of the fertilizer commodity on time, it has failed to ensure fair fertilizer prices throughout the

study area. This finding agrees with that of an earlier report that the real constraint to fertilizer use was its high price [11]. Only 2 of the 117 respondents in this study considered fertilizer price as reasonable. It is noteworthy that these 2 respondents are trade union members who get their fertilizer at a subsidize rate from the government through their trade union.

Timing of Fertilizer Availability: The finding of this study indicates that 79% of the respondents are of the opinion that they get their fertilizer on time. This finding is significant as it has shown that the liberalized fertilizer market can afford to make the fertilizer commodity available to producers as and when due. This finding belies the argument [11] that small-scale farmers experienced difficulties obtaining the quantity of fertilizer they needed on a timely basis. The remaining 21% that do not get their fertilizer on time was due to the absence of the ability to purchase the commodity on time or they were waiting for the government subsidized fertilizer.

Problems Faced by Small-scale Walnut Producers in Meeting Their Fertilizer Requirements: Table 6 is a multiple response table of the problems faced by small-scale walnut producers in meeting their fertilizer requirement. About seventy-five percent of the respondents considered the combination of high fertilizer cost and low walnut prices as the major problem that militates against their ability to meet their optimum fertilizer needs. Forty-seven percent of the respondents considered non-availability of credit facilities as a problem that militates against their ability to meet their fertilizer requirement. This finding is in agreement with Kormowa *et al.*, and Mudahar, [15, 16] that high cost of fertilizer, low productions price and lack of credit facilities are the major constraints to increase in fertilizer use by small-scale farmers. This finding has a very strong implication on farmer-incentive to continue in the business of walnut production. According to Olukosi and Isitor, [17], usually, prices of horticultural crops like walnut are depressed to the lowest level at harvest time and then rise as the season progress, reaching a peak just before the next harvest. Output price volatility is viewed as a constraint factor to the adoption of fertilizer by small-scale walnutproducers [18]. In the findings of Baanante and Thompson, & Lele *et al.*, [19, 20] emphasized the importance of the demand for agricultural output and the productions price among factors affecting fertilizer demand. In particular, it was noted that the level of demand for food and agricultural commodities determines their prices which, in turn, determine the profitability of

their production and the use of purchased inputs especially fertilizer [19, 21]. Another implication of this finding is that, in response to the increase in fertilizer prices most producers are either not applying fertilizer or applying inadequate fertilizer. This also agrees with Kormowa *et al.*, [15]. That 47% of the respondent small-scale producers considered the lack of credit facilities as another constraint to fertilizer use is expected. This is because most fertilizer purchases in the study area are cash-based and require a certain amount of cash income. This finding is in-line agreement with Nagy and Edun, [11] that acquiring credit for fertilizer purchases was a significant problem. Small-scale producers do not use as much fertilizer as large-scale producers because they cannot obtain credit and because they have a limited amount of their resources to purchase fertilizer.

CONCLUSION AND RECOMMENDATIONS

The paper set out to seek the opinion of small scale walnut producers in Twoiserkantownship on the existing fertilizer market in Iran. The major findings of this study are:

- The private sector alone copes with the level of production and distribution activities consistent with the level of demand for fertilizer that currently exist. More than 85% of the respondents sourced their fertilizer from the open market.
- The private sector is able to distribute fertilizer to a walking distance of every producer. More than 60% of the respondents sourced their fertilizer within a distance of 8.5km from their garden settlement.
- Fertilizer price in a private sector dominating fertilizer subsector is far from affordable. Almost all the respondents considered fertilizer price to be on the high side.
- The private sector ensures the availability of the fertilizer commodity on time to producers. Almost 80% of the respondents are of the opinion that they get fertilizer on time.
- High fertilizer cost and low walnut price are the major problems faced by walnutproducers in meeting their fertilizer requirements. Another problem is non-availability of credit to enable farmers purchase the fertilizer commodity as and when due.

In view of the findings of this study, the following recommendations are advanced to enhance walnutproduction under the existing fertilizer marketing system.

- Comprehensive incentive-giving policies to enhance walnut producer price should be put in place to ensure that the overall cost and returns to walnut production can guarantee adequate profit for walnutproducers. Agricultural price incentives are known to be influenced by macroeconomics policies. Government should reserve the right to support walnut prices provided they reflect the true production costs of efficient producers.
- A viable credit programme is needed to eliminate financial constraints to the purchase of fertilizer by producers. Such credit facilities to producers will enable them increase their level of fertilizer use.
- The government must not continue to apply subsidies. Very few producers benefit from government subsidised fertilizer. It is the opinion of this paper that if the above 2 recommendations are taken to empower small scale producers to purchase the fertilizer commodity; subsidy can conveniently be removed.

REFERENCES

1. Federal Ministry of Agriculture, 1982. The Green Revolution Programme of the Federal Government of Nigeria. FMA&NR, Lagos.
2. Arnon, I., 1987. Modernization of Agriculture in Developing Countries: Resources, Potentials and Problems. John Wiley and Sons. 2nd Edition
3. Ogunfowora, O., 1996. Input Supply and Distribution for Crop Production in Nigeria: Problems and Prospects. A Keynote address presented at the first ISNAR/NAERLS/FDA joint seminar, Zaria: NAERLS Press.
4. World Bank, 1981. Problems of Marketing and Input Supply in Accelerated Development in Sub-Saharan Africa. World Bank Report, Washington.
5. Mwangi, W.M., 1997. Low Use of Fertilizer and Low Productivity in Sub-Saharan Africa. *Agro-Ecosystems*, 47: 135-147.
6. International Fertilizer Development Centre (IFDC); International Institute for Tropical Agriculture (IITA); West Africa Rice Development Association (WARDA) 2000. The Agricultural Input Markets in Nigeria: An Assessment and a Strategy for Development.
7. Isokrari, O.F., 1995. Achievements and Constraints of the Local Fertilizer Manufacturers in 1993 and 1994. An invited paper presented at the 27th Meeting of the National Council on Agriculture (NCA). Abuja-July 1995.

8. Peat Marwick AniOgunde Consultants, 1993. Impact of Nigerian Fertilizer Policy on Border Trade with Niger. IFDC-Africa, Lome Togo.
9. Ogunfowora, O. and B., Odubola, 1994. A Conceptual Framework for a Phased Subsidy Withdrawal Programme Under a Liberalized Fertilizer Sector. A Report submitted to IFDC-Africa, Lome, Togo.
10. McKinnon, R.I., 1993. The Order of Economic Liberalization. Baltimore: Johns Hopkins Univ. Press.
11. Nagy, J.G. and O. Edun, 2002. Assessment of Nigerian Government Fertilizer Policy and Suggested Alternative Market-Friendly Policies. IFDC-Africa, Lome, Togo.
12. Mondarej, S., 2011. Fertilizer Subsidy in Iran. Available on the :<http://www.aftab.ir>
13. Association for Cooperation of Knowledge and Walnut Industry 2012. Map of the Path of Walnut Production in Iran. Retrieved October 12, 2014, from <http://www.kicc-walnut.ir/Upload/map%20.pdf>. 4-80.
14. Fasihi, H., 2011. A veiw on the Smuggle Agricultural Inputs in Iran: Fertilizers. *Journal of Abstruse Economic*, 8: 39-46.
15. Kormowa, P., I. Okike, R. Okechukwu and S.O. Akande, 2003. African Food Crisis: The Nigerian Case Study. Ibadan: IITA
16. Mudahar, S.M., 1984. Fertilizer Price Deregulation and Public Policy: The Case of Bangladesh. Muscle Shoals: IFDC
17. Olukosi, J.O. and S.U. Isitor, 1990. Introduction to Agricultural Marketing and Prices: Principles and Applications. Abuja: GU Publications.
18. Dimethe, G., S.K. Debrah, B.L. Bumb and D.I. Gregory, 1998. Improving Agricultural Input Supply System in Sub-Saharan Africa: A Review of Literature. Paper series IFDC-P-22. IFDC, Muscle Shoals, AL, USA.
19. Baanante, C.A. and T.P. Thompson, 1988. Microeconomic Research on Constraints to Fertilizer Use in Sub-Saharan Africa for Policy Development. Paper presented at the IFDC-IFPRI Workshop on Fertilizer Policy in Tropical Africa. Lome, Togo. April 5-7.
20. Lele, U., R. Christianson and R. Kadiresan, 1989. Issues in Fertilizer Policy in Africa: Lessons from Development Programs and Adjustment Lending, 1970-1987. MADIA Discussion Paper 5. Washington DC: World Bank.
21. Thompson, T.P., 1991. Socio-economic Constraints to Fertilizer demand in the Small-farm Sector of Developing Countries. IN Ahlrichs, L. E. and O. P. Engelstad (Eds). *Developing the Fertilizer Dealer: Emphasising the Small Farm Sector*. Proceedings of a workshop held in Kingston Jamaica, pp: 21-25.