Vol 4 Issue 5 Feb 2015

ISSN No : 2249-894X

Monthly Multidisciplinary Research Journal

Review Of Research Journal

Welcome to Review Of Research

RNI MAHMUL/2011/38595 **ISSN No.2249-894X**

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.ror.isrj.org

Review Of Research
ISSN:-2249-894X
Impact Factor : 3.1402(UIF)
Vol. 4 | Issue. 5 | Feb. 2015
Available online at www.ror.isrj.org

STUDYING PRODUCTION, CONSUMPTION, AND PRICE POLICY ANALYSIS OF BROAD BEANS AND LENTILS

Afaf Z. Othman , Ahlam A. Hassan and Monia Bahaa El-Din Hassan

Department of Agricultural Economics, National Research Centre, Cairo, Egypt.

Abstract:-Broad beans and lentils are considered the main leguminous crops consumed by Egyptian population. Findings regarding total production of lentils and broad beans over the period (1998-2012) revealed that lentils production reached 2.67 thousand tons on average. Lentils consumption reached 82.33 thousand tons on average. As regards broad beans, production reached 288.21 thousand tons on average. On the other hand, consumption reached 584.43 thousand tons on average. Results of the agricultural policy analysis matrix for lentils, over the period (2009-2012) indicate that (NPC) for lentils amounted to 1.043%, which means that the farmer recieves an output price that is higher than the international price. Such result indicates that lentils' producer does not bear any taxes, a policy that encourages producers expand lentils cultivated area. Findings also indicate that producers are using production inputs efficiently, and that producing lentils in Egypt is better than importing from other countries. As regards broad beans, (NPC) amounted to 0.996%, which means that broad beans' producers in Egypt neither bear taxes, nor the Government intervene in the domestic market of the commodity. It also means that broad beans' domestic price is close to, or even equal to the international price during the study period. Study recommended expanding the planted areas of lentils and broad beans, and devoting serious attention toward enhancing the production of both crops.

Keywords: Price Policy Analysis, Broad beans and lentils, production- consumption.

INTRODUCTION

Broad beans and lentils are considered the two main leguminous crops for Egyptian consumers. Besides preference, both crops represent good sources of vegetable protein, which compensates the shortage in per capita animal protein requirement due to the soaring prices of red meat and poultry. Broad beans and lentil contain large amounts of protein, iron, and minerals. The protein content in lentils is up to 28%, while is up to 0.58% in broad beans (Central Agency for Public Mobilization and Statistics, 2013). The two leguminous crops also help in improving soil characteristics and nitrogen fixation, which helps increase crop production and reduce the rate of applied Nitrogen fertilizers. In addition, the residues of both crops are considered high nutritional value meals for animals as they help increase milk production. However, the quantities produced of these important crops followed declining trends in recent years, where lentils cultivated area declined from 1.5 thousand feddans in 2008 to 0.81 thousand feddans in 2012, which resulted in reducing the produced quantity from 1.2 to 0.72 thousand tons between the two years, down by 40%, which in turn led to reducing the coverage of domestic consumption to as low as 1.56% (Ministry of Agriculture and Land Reclamation, 2012). On the other hand, broad beans cultivated area declined from 170 thousand feddans in 2008 to 98 thousand feddans in 2012, which resulted in reducing the quantity produced from 244 to 139 thousand tons between the two years, down by 40%, which in turn led to reducing the coverage of domestic consumption to a low of 38%. It is worth mentioning that the competition between the two crops and both wheat and clover over the same land area further complicates the problem (Ministry of Agriculture and Land Reclamation, 2012).

The present research aims to identify the reasons for the considerable declines in broad beans and lentils cultivated areas, which coincided with the implementation of economic reform programs, through studying the price policy matrix for each of the two study crops, based on which solutions for increasing the production of both crops shall be suggested. The research investigates the problem of the continuous decline in cultivated areas of broad beans and lentils, which led to considerable reductions in the domestic supply of both crops, resulting in increased shortages in the coverage rates of domestic consumption.

METHODOLOGY AND SOURCES OF DATA

The research depended on descriptive statistics, besides studying the price policy matrix for each of the two study crops. As for the sources of data, the study used both published and unpublished data from the Ministry of Agriculture and Land Reclamation, the Website of The Central Agency For Public Mobilization And Statistics, Food and Agriculture Organization of The United Nations, in addition to published research studies related to the research subject.

RESULTS AND DISCUSSION

Evolution of Area and Production

The evolutions of broad beans and lentils cultivated areas and production quantities over the period (1998-2012) have been studied. The study period has been divided into three sub-periods, the first of which is the base period (1998-2002); whereas the second period (2003-2007) and the third period (2008-2012) have been considered the comparison periods, as shown in Table (1), the obtained results are presented as follows:

I.Lentils

Average cultivated area of lentils declined from 6.152 thousand feddans during the base period (1998-2002) to 2.722 thousand feddans during the second period, and further to 1.864 thousand feddans during the third period, down by 55.75% and 69.70% compared to the base period, respectively (National Research Centre, 2013/2014). As regards the country's average production of lentils, it declined from 4.401 thousand tons during the base period to 2.023 thousand tons during the second period, and further to 1.406 thousand tons during the third period, down by 54.02% and 68.06% compared to the base period, respectively. Average yield per feddan declined from 0.715 ton during the base period to 0.682 ton during the second period, down by 4.615% compared to the base period, while increased to 0.796 ton during the third period, up by 11.33% compared to the base period (National Research Centre, 2013/2014). Based on that, it is clear that there is continuous decline in the area and quantity produced of Egyptian lentils. However, yield declined during the second period but recovered during the third period, but the relative increase in yield did not compensate the huge decline in total production resulting from the huge decline in cultivated area during that period.

II.Broad Beans

Average cultivated area declined from 327.597 thousand feddans during the base period to 215.782 thousand feddans during the second period, and further to 157.825 thousand feddans during the third period, down by 43.13% and 51.82% compared to the base period, respectively. As regards the country's average production of broad beans, it declined from 404.848 thousand tons during the base period to 299.633 thousand tons during the second period, and further to 216.915 thousand tons during the third period, down by 26% and 46.2% compared to the base period, respectively (National Research Centre, 2013/2014). Data in Table (1) indicate that average yield per feddan amounted to 1.254 ton during the base period, while amounted to 1.392 and 1.375 tons during the second and third period, respectively, up by 11% and 9.65% compared to the base period, respectively (National Research Centre, 2013/2014).

Based on that, it is clear that the increase in yield per feddan during the second period is higher compared to yield per feddan obtained during the third period, which resulted in raising the relative decline in total production of broad beans during the third period compared to the second period, in addition to the relative increase in broad beans' cultivated area during the second period compared to that cultivated during the third period.

Table 1: Average of the cultivated area, total production and productivity of lentil and broad bean during study periods (1998-2002), (2003-2007), (2008-2012).

The crop	broad bean			lentils		
The statement	Area	Productivity	Production	Area	productivity	Production
The first period	327.597	1.254	404.848	6.152	0.715	4.401
The second period	215.782	1.395	299.633	2.023	0.682	2.722
Third Period	157.825	1.375	216.915	1.406	0.796	1.864
The change in the second for the first	-34.13%	11%	-26.00%	-54.02%	-4.62%	-55.75%
The change in the Third for the first	-51.82%	9.65%	-46.20%	-68.06%	11.33%	-69.70%

-Area per thousand feddan, Production per thousand ton, productivity per ton
-Source: Calculated from: Ministry of Agriculture and Land Reclamation - Central Department of Economics and Statistics - Agricultural Economics and Statistics Bulletin different volume (1998- 2012) National Research Centre, 2013/2014).

Production and Consumption of Broad Beans and Lentils

Table (2) shows the production quantities of broad beans and lentils over the period 1998-2012. It is clear that lentils production reached 2.67 thousand tons on average, and recorded a maximum of 7.651 thousand tons in 1998, and a minimum of 2.67 thousand tons in 2012. As regards lentils consumption, data in the table indicate that it reached 82.33 thousand tons on average, and recorded a maximum of 106 thousand tons in 2010, and a minimum of 53 thousand tons in 2008. Average consumption coverage rate reached 3.29%, recording a maximum of 9.3% in 1998 and a minimum of 1.5% in 2009. As regards broad beans, data in Table (2) indicate that production reached 288.21 thousand tons on average, and recorded a maximum of 439.212 thousand tons in 2001, and a minimum of 141 thousand tons in 2012. On the other hand, consumption reached 584.43 thousand tons on average, and recorded a maximum of 711 thousand tons in 2002, and a minimum of 340 thousand tons in 2000. The study period's average consumption coverage rate amounted to 51.904%, recording a maximum of 104.1% in 2000 and a minimum of 32.66% in 2010.

Table 2: Production, consumption and the ratio of production to consumption covering for lentil and broad bean crops during the period (1998-2012). (Quantity: thousand ton)

Years	Lentil crop per thousand ton			Thousand ton per broad bean crop		
	Production	consumption	production/ consumption%	Production	consumption	production/ consumption%
1998	7.651	81	9.3	523.13	-	-
1999	3.684	82	4.49	307.08	529	58.03
2000	3.354	84	4	353.91	340	104.1
2001	3.779	84	4.5	439.21	528	83.18
2002	3.539	81	4.37	400.91	711	56.39
2003	2.833	61	4.64	336.77	644	52.29
2004	2.618	87	3.01	330.49	643	51.4
2005	1.884	105	1.8	281.65	653	43.13
2006	1.245	74	1.7	247.49	695	35.61
2007	1.537	82	1.9	301.8	591	51.07
2008	1.241	53	2.3	244.1	662	36.87
2009	1.484	97	1.5	295.2	630	46.86
2010	2.178	106	2.1	231.9	710	32.66
2011	2	94	2.13	175	483	36.23
2012	1	64	1.56	141	363	38.84
Average period	2.669	82.333	3.287	291	584.43	51.904
The highest value	7.651	106	9.3	439.21	711	104.1
The lowest value	1	53	1.5	141	340	32.66

Source: - Ministry of Agriculture and Land Reclamation - Central Department of Economics and Statistics - Agricultural Economics Bulletin 2012(3).

-The Ministry of Agriculture and Land Reclamation data - food balance Bulletin- Arab Republic of Egypt - 2011.

Impact of Current Price Policy on the Study Crops

Agricultural polices implemented under economic reform policy programs tended to induce some structural changes that aim to maximize the economic return. However, obtaining such objective depends on the convergence between domestic and world prices, either output or input prices, due to the fact that international values represent the opportunity cost under perfect competition. The policy analysis matrix can help us lay a frame for measuring the divergence between market and economic prices of a certain commodity, the distortions in such commodity's market, and the level of production factors employment. To achieve that, the economic prices per feddan for both the final output and production inputs have been calculated. In the production side, parity price is calculated by discounting the costs of unloading, customs, and insurance from the CIF price in order to obtain the FOB price. FOB price is then converted into domestic price using the market exchange rate. Internal tariff is then subtracted from the obtained domestic price, the result of which is multiplied by average yield per feddan to get the economic return per feddan. And to reach the production cost assessed in shadow prices (economic assessment), the conversion rates estimated by the World Bank for Egypt during 1990 have been used. Such conversion rates reached 1.159 for the cost of machinery use; 1.6 for the cost of chemical fertilizers; 1.976 for the cost of pesticides; 1.149 for the cost of seeds; and 0.5 for the cost of human labor. Other items remain unconverted, whilst the opportunity cost for the land factor is usually the economic rent of land.

The general structure of the PAM

Prices	Profit	Costs		Revenue
		Non- Tradabl Costs	Tradable Costs	
Market Price	D	C	B	A
Economic Prices	H	G	F	E
Transfers*	L	K	J	I

Policy Analysis Matrix (PAM)

Policy Analysis Matrix (PAM) is one of the recent tools used in agricultural policy analysis, especially price policies. It helps measure the distortions in the economies of a given commodity, and explains the economic efficiency of available resource use. PAM also provides analytical economic indicators of great importance to measuring the impacts of the implemented agricultural policy, or dominant production pattern, on the costs and returns to agricultural production at three main levels, these are (1) the level of produced agricultural commodity, the studied comparative advantages of which can be compared with another domestically produced agricultural commodity; (2) the farm level, which can be done by studying the impact of such implemented agricultural policy, or dominant production pattern, on the internal and external trade of production inputs and outputs; and (3) the macroeconomic level, which can be done by identifying the success or failure of the implemented agricultural policy, or the production or economic pattern followed in tackling problems in the agricultural sector as a result of incurring subsidies, or imposing taxes on the product or the factors of production.

The General Framework of PAM (Eric and Scott, 1989)

PAM usually depends on the following:

1.Simple Profit Equation = Revenues – Costs.
2.Classifying production costs into tradable inputs – non-tradable inputs.
3.Profit and both types of cost are calculated using both market and economic prices.
4.The difference between market and economic prices is referred to as the conversions, which reflect the degree of divergence between market and economic prices.

PAM consists of the following items:

Costs

B = The costs of chemical fertilizers, seeds, machinery, and 30% of the irrigation water cost, all calculated in domestic market prices and economic prices.
C = manure, labor, animal work, land rent, about 70% of irrigation water cost, all calculated in domestic market prices and shadow prices (G).

Revenues

A = Financial Revenues = yield of main crop X market price of main crop + value of the secondary product
E = Economic Revenues = yield of main crop X shadow price of main crop + value of the secondary product
PAM provides three main indicators and three protection measures. The three indicators are profits measured in financial prices, profits measured in shadow prices, and conversions. The three protection measures are the nominal protection coefficient, effective protection coefficient, and the coefficient of domestic inputs cost.

First:

1.Financial Profits: D = A – (B+C) expresses the returns to an activity when output and inputs are assessed in market prices. In case D is negative, it means producers are getting lower-than-expected revenues, and thus prefer to get out of that activity. But in case D is positive, it means producers are getting higher-than-expected revenues, and thus prefer to expand their activity.
2.Economic Profits: H = E – (G+ F) expresses the returns to an activity at the macro level when output and inputs are assessed on the basis of opportunity cost, and measures the comparative advantage, or efficiency. In case H is negative, it means the adopted production system does not use the given resources efficiently; and in case H is positive, it means the adopted production system uses the given resources efficiently.
3.Conversions: reflect the impact of governmental interventions. They represent the difference between financially assessed revenues and economically assessed revenues, or, the difference between the financial and social values of revenues, costs, and profits. Conversions are divided into the following types:

a.Conversion Of Output: I = A – E

In case I is negative, the value of financially assessed outputs is lower than that assessed economically.
In case I is positive, it means producers are getting market prices higher than international prices.

b.Conversion of Tradable Inputs: J = B – F

In case J is negative, producers are paying lower prices for tradable inputs relative to international prices, i.e., producers receive subsidy. In case J is positive, producers are paying higher prices for tradable inputs compared with the international prices.

c.Conversion of Domestic Inputs: K = C – G

In case K is negative, producers are paying lower prices for domestic inputs relative to international prices, which represent the opportunity cost. In case K is positive, producers are paying higher prices for domestic inputs compared with the international prices.

Net Conversions: L = D – H = I - J – K

In case L is negative, the activity incurs losses due to lack of governmental intervention. In case L is positive, the activity realizes profit due to governmental intervention.

Second:

Economic Protection Indicators

Nominal Protection Coefficient on Output (NPC): NPC measures the impact of policies on input and output prices, where distortions reveal the variation in domestic prices relative to international prices, either due to imposed direct and indirect taxes, or to producer subsidy. NPC is calculated as follows:

Nominal Protection Coefficient (NPC) = A/E

NPC is calcuated by dividing the value of revenue assessed in market price over its value in international prices:

1.In case the resulting figure is greater than one, the producer is subsidized by the Government.
2.In case the resulting figure is below one, there are taxes imposed by the Government.
3.In case the resulting figure equals one, price received by the producer equals the international price, and no Governmental internvention.

Nominal Protection Coefficient on Input (NPCI): is an indicator revealing whether there is protection or incentives to production, or imposed taxes, but it only takes inputs into account. It is calculated as follows:

Nominal Protection NPCI Coefficient on Input (NPCI) = B/F

Effective Protection Coefficient (EPC):

Is an indicator revealing whether there is protection or incentives to production, or imposed taxes. In other words, it measures the comprehensive impact of policy outcome on tradable goods and services. It is a value added to the product or inputs used for producing the product. It is calculated as follows:

Effective Protection Coefficient (EPC) = (A‹‹ B) /(E‹‹ F)

In case the resulting figure is greater than one, it means there is protection and incentives to production, or subsidy to producers. But in case resulting figure is below one, it means there are imposed taxes.

Domestic Resource Cost (DRC):

Is one of the Comparative Advantage indicators. It is a measuring scale for comparative advantage, where it reflects the efficiency of domestic resource use. It is calculated by dividing production inputs cost (B) over the value added assessed in market price (E-F), as follows:

Domestic Resource Cost (DRC)= B/(E-F)

In case the resulting figure is below one, it means the producer used his given inputs efficiently based on international prices. And in case the resulting figure is greater than one, it means the producer did not use his given inputs efficiently. Finally, in case the resulting figure equlas one, it means the given inputs are sufficient for producing the product. Table (3) presents the results of the agricultural policy analysis matrix for lentils over the period 2009-2012. The presented results are for both ouput and production inputs assessed in financial and shadow prices. Results regarding the main calculated coefficients are as follows:

Table 3: The results of the agricultural policies matrix analysis for the lentil crop during the period (2008-2012). (The value per Egyptian pound).

Prices	Profit	Costs		Revenue
		Non-tradabl Costs	Tradable Costs	
Market Price	4917	1495	1304	8239
Economic Prices	4639	1557	1706	7902
The policy impact	278	(62)	(402)	337

1.The calculated **Nomincal Protection Coefficient** (NPC) for lentils amounted to 1.043%, which means that the farmer recieves an output price that is higher than the international price, estimated at L.E 5970/ton, whereas the domestic price is L.E 6328/ton. Such result indicates that lentils' producer does not bear any taxes, a policy that encourages producers expand lentils cultivated area.
2.The calculated **Nomincal Protection Coefficient on Input** (NPCI) amounted to 0.76, which means that the value of domestic inputs required to produce lentils is lower than its international value, i.e., input prices have been subsidized by the Government by 24% during the study period.

3.The calculated **Effective Protection Coefficient on Input** (EPCI) for lentils' production inputs amounted to 1.12, which means that producers did not bear any taxes during the study period, but received incentives that accounted for 12% of the production inputs' value value.
4.The calculated **Domestic Resource Cost** (DRC), or Comparative Advantage Coefficient, amounted to 0.211, which means that Egypt has a comparative advantage in lentils production. In other words, the domestic cost of production has been lower than the international cost of procution. It also indicates that the producer is using production inputs efficiently, and that producing lentils in Egypt is better than importing from other countries. As regards broad beans produced during the period (2009-2012), Table (4) presents the results of PAM for both inputs and outputs measured in financial and shadow prices. The following are the achieved analysis results:

1.The calculated **Nomincal Protection Coefficient** amounted to 0.996%, i.e., approximatley one percent, which means that broad beans' farmers in Egypt neither bear any taxes, nor the Government
2.intervene in the domestic market of the commodity. It also means that broad beans' domestic price is close to, or even equal to the international price during the study period.
3.The calculated **Nomincal Protection Coefficient on Input** (NPCI) amounted to 0.73, which means that the value of domestic inputs required to produce broad beans is lower than their international value, i.e., input prices have been subsidized by the Government by 27% during the study period.
4.The calculated **Effective Protection Coefficient on Input** (EPCI) for broad beans' production inputs amounted to 1.053, which means that producers did not bear any taxes during the study period, but received incentives that accounted for 5.3% of the production inputs' value.
5.The calculated **Domestic Resource Cost** (DRC), or Comparative Advantage Coefficient, amounted to 0.154, which means that Egypt has a comparative advantage in broad beans production. In other words, the domestic cost of production has been lower than the international cost of procution. It also indicates that the producer is using production inputs efficiently, and that producing broad beans in Egypt is better than importing from other countries.

Table 4: The results of the agricultural policies matrix analysis for the Broad beans crop during the period (2008-2012). (The value per Egyptian pound).

Revenue	Costs		Profit	Prices
	Tradable Costs	Non- Tradabl Costs		
9132	1166	2463	5503	Market Price
9171	1609	1679	5883	Economic Prices
(39)	(443)	784	(380)	The policy impact

Potentials For Improving Egypt's Production of Lentils and Broad Beans

Findings revealed large shortages in the coverage of domestic demand for lentils and broad beans. It was found that despite the achieved increase in yield per feddan for both crops during the study period, the continous decline in cultivated areas negatively affected the produced quantity of each of the two crops. Such finding emphasizes the necessity to exert efforts in order to improve their production. The study suggests working hard to expand the planted areas of both crops without jeopardizing the areas of competing crops, espeically wheat and clover. Expansions in planted areas can be achived through intercropping with other crops, where studies proved the success of intercropping broad beans with Nili tomatoes, the yield of which amounted to 1.085/feddan, in addition to protecting tomatoes against frost through warming the surrounding environment, which also helps improve the quality of tomato crop.

Knowing that Nili tomato planted area is estimated at 79 thousand feddans in Middle and Upper Egypt, applying this system is expected to yield around 85.715 thousand tons, which is a quantity sufficient to cover about 29% of the supply shortage, estimated at 293 thousand tons on average during the study period. Such quantity is expected to save about US$ 64.88 million from the Balance of Agricultural Trade (based on average import price estimated at US$ 757 during the study period 2009-2011) without jeopardizing the dominant cropping pattern, in addition to increasing the quantity of produced tomatoes by some 3 tons above the single planted tomatoes(6). Broad beans can also be intercropped with sugar beat, the areas of which have been recently increasing to above 300 thousand feddans, which is negatively influencing other winter crops. The possibility of intercropping broad beans with sugar beat at an intensity equivalent to 5.12%. This can be done by applying the farming system on rows, where broad beans is planted on the redge of the fourth row of sugar beat, or it may be cultivated on sugar beat terraces by planting a row of broad beans on the back of the sugar beat terrace. Applying this system resulted in obtaining an average yield of 4.3 Aradeb per feddan of broad beans, i.e., 0.47-0.62 ton/feddan, yielding a total quantity of 139.5-186 thousand tons. Such quantity helps in covering 47%-63% of the shortage in broad beans' supply according to the realized yield. However, it is necessary to build extra silos in order to provide the storage capacities required to store the surplus production (Sahar Talat, 2011).

RECOMMENDATIONS

Based on the research findings, the following recommendation are suggested:

1.It is necessary to raise lentils and broad beans' production because the two crops are considered necessary food crops for the Egyptian population, and important sources of vegetable protein. It is worth mentioning that average consumption of the two crops amounted to 82.2 and 584.4 thousand tons dueing the study period, respectively.
2.Reconsidering the pricing policy of both crops, where findings revealed that Egypt has a comparative advantage in the production of lentils and broad beans as the cost of domestic production inputs are below the cost of international inputs.
3.Promoting the expansion of lentils and broad beans cultivated areas, where producers do not bear any taxes, rather, they receive incentives and subsidy to production inputs.

SUMMARY

Broad beans and lentils are considered the main leguminous crops consumed by Egyptian population due to the fact that both represent good sources for vegetable protein, which compensates the shortage in animal protein due to the soaring prices of red meat and poultry. Broad beans and lentil contain large proportions of protein, iron, and minerals. The protein content in lentils is up to 28%, while is up to 0.58% in broad beans. The research aimed to investigate the reasons for the declines in the planted areas of both crops. Findings regarding total production of lentils and broad beans over the period (1998-2012) revealed that lentils production reached 2.67 thousand tons on average, and recorded a maximum of 7.651 thousand tons in 1998, and a minimum of 2.67 thousand tons in 2012. As regards consumption, lentils consumption reached 82.33 thousand tons on average, and recorded a maximum of 106 thousand tons in 2010, and a minimum of 53 thousand tons in 2008. The study period's average consumption coverage rate reached 3.29%, recording a maximum of 9.3% in 1998 and a minimum of 1.5% in 2009. As regards broad beans, production reached 288.21 thousand tons on average, and recorded a maximum of 439.212 thousand tons in 2001, and a minimum of 141 thousand tons in 2012. On the other hand, consumption reached 584.43 thousand tons on average, and recorded a maximum of 711 thousand tons in 2002, and a minimum of 340 thousand tons in 2000. The study period's average consumption coverage rate amounted to 51.904%, recording a maximum of 104.1% in 2000 and a minimum of 32.66% in 2010. Results of the agricultural policy analysis matrix for lentils, assessed in financial and shadow prices over the period 2009-2012 indicate that the Nomincal Protection Coefficient (NPC) for lentils amounted to 1.043%, which means that the farmer recieves an output price that is higher than the international price, estimated at L.E 5970/ton, whereas the domestic price is L.E 6328/ton. Such result indicates that lentils' producer does not bear any taxes, a policy that encourages producers expand lentils cultivated area. Findings also indicate that producers are using production inputs efficiently, and that producing lentils in Egypt is better than importing from other countries.

As regards broad beans, The calculated Nomincal Protection Coefficient amounted to 0.996%, i.e. approximatley one percent, which means that broad beans' producers in Egypt neither bear taxes, nor the Government intervene in the domestic market of the commodity. It also means that broad beans' domestic price is close to, or even equal to the international price during the study period. Based on the achieved results, the study recommended expanding the planted areas of lentils and broad beans, and devoting serious attention toward enhancing the production of both crops.

REFERENCES:

1.Central Agency for Public Mobilization and Statistics 2013. Information Center - Website. www. capmas.gov.eg
2.Ministry of Agriculture and Land Reclamation 2012. Central Administration of Agricultural Economics and Statistics - unpublished data and agricultural statistics bulletin - different volume (1998-2012).
3.National Research Centre 2013/2014. The role of agricultural intensification to achieve Egyptian food security - internal project number 10120903. Ministry of Agriculture. First report.
4.The Ministry of Agriculture and Land Reclamation data 2011. Food balance Bulletin- Arab Republic of Egypt.
5.Eric A. Monke and Scott R. Pearson 1989. Arizona University, The policy Analysis Matrix for Agricultural Development Book, Page: 3-19.
6.Sahar Talat 2011. ARC International Network information.
http://digital.ahram.org.eg/articles.aspx?Serial=403826&eid=799.