

The Effects of the Agricultural Policies on the Relative Privileges of Meat Production in Egypt

Nayera .Y. Solieman

Department of Agricultural Economics- National Research Center

Abstract: *The most important results that the study has concluded are restricted to the highly relative privilege which Egypt has in producing the poultry meat estimated about 78.9% This is followed by the relative privilege which Egypt has in producing the red meat estimated almost 52.6%. As to the fish production, the study has indicated that Egypt does not have relative privilege in producing fish during the study period (1994-2012). Therefore as to the red meat, the study has recommended the necessity to work at two main trends: the first is horizontal and aims to duplicate the existing number of different animals, the second is vertical and aims to elevate the animal production proficiency level of beef, dairy and other related sub-products. As to fish, the study recommendations are represented in handling the most important negative points that have contributed to the relative privilege reduction of Egyptian fish production through developing the Egyptian fish wealth and providing high value species, fish farms, necessary fodder for fish farms, encourage investors to invest in fish farms, provide necessary needs and potentials for the fish farming industrialization in Egypt. Finally, the necessity to pay attention to management efficiency as the hectare production of the fish farms ranged in various states between 550 kgm to 6.6 tons and this difference is mainly attributed to management reasons.*

Keywords: Relative privilege- red meat- Egypt

1. Introduction

The current situations of the Egyptian agricultural sector need a deeper glance to work out a proper agricultural policy which constitutes an indispensable part of the development policy of the Egyptian society as a whole. It should take into consideration the related interdependence between the urban and rural development and the special requirements of them each. The agricultural policy should be characterized by a set of available general aspects mostly important the development of available natural resources with their optimal exploitation while observing the competitive advantage in exploiting these resources. The agricultural resources management includes soil, water and crops in a way that ensures their protection, development and long-term sustainable production. Providing the proper investment environment for all different sectors through upgrading the legislations related to the agricultural to attain the desired agricultural development. The agricultural policy should also provide the required food commodities in terms of quantity and types, realize the economic balance within the agricultural sector and between the agricultural sector and other sectors, provide equal economic and social opportunities for all workers in the agricultural activity, particularly the smallest farmers who depend on agriculture as a main source of their livelihood.

2. Problem of the Study

In spite of the animal wealth importance in Egypt as a main source of the national income as it contributes about 35% of the agricultural income; the agricultural production increase and the realization of overall agricultural sector development as it directly contributes to resolve the unemployment problem; it is also an important source of providing the animal protein which is the main basis of the man's general health; the individual's animal protein per capita is reduced to about 19 kgm/day. It is a much reduced rate as compared to the individual per capita in the developed countries

estimated almost 38 kgm/day. The Egyptian meat imports size increased in 2012 to meet the meat shortage gape by 42.4% as compared to 1994. The imports value increased as well as it was estimated about US\$ 1220.2 million in 2012 by almost 402.4% as compared to 1994. Therefore, the state's burden increased to provide the hard currency necessary for meeting the Egyptian people's needs and desires.

3. Aim of the Study

The study main aim is restricted to examining the effect of the Egyptian agricultural policy on meat production in Egypt during the period (1994-2012). This was done through the annual estimation of the relative privilege in order to judge the extent of success or failure in applying these policies in Egypt.

4. Research Methods and Data Collection

The research method has relied on the relative privilege indicators estimates of meat production (red-poultry-fish) during the study period (1994-2012) through the estimates of two relative privilege indicators. The first indicator refers to the estimate of domestic resource cost whereas the second indicator refers to the estimate of net economic benefit in order to potentially and separately assess the annual relative privilege; a matter that leads to restructuring Egypt's production of different meat according to the obtained results. The study has relied as well in its data collection on some electronic websites including the Arab organization for agricultural development, the world food organization, the central system for public mobilization and statistics besides some electronic sites that handled the research topic.

The relative privilege refers to the economy ability to produce a commodity with much less cost than any other economy through the available productivity factors. The relative privilege concept can be applied to the individual, the institution and the society. The relative privilege briefly

expresses a particular acquired ability enjoyed by the individuals, the institutions and the societies.

5. Measurement of the used Relative Privilege

The study has relied on two relative privilege measures. The first is the domestic resource cost whereas the second is the net economic benefit in order to potentially determine the year which is characterized by the relative privilege in different meat production in Egypt during the above-mentioned period so as to help restructure meat production in Egypt.

First: the domestic resource cost (DRC)

This measure is used in order to compare the alternative opportunity costs of the domestic production of the investigated topic to the resulted in added value. This indicator can be computed according to the following formula:

The domestic resource cost (DRC)= the value of domestic resources and non-traded inputs by the shade prices/net returns or savings of the foreign currencies in the domestic commodity production

It can be written as follows:

$$DRC = G/E - F$$

Where:

G= the domestic resource cost in shade prices

E= modified limit price for the product unit

F= cost of the non-traded inputs by the shade prices

The DRC measure takes the digital value range and these values arrangement refers to different efficiency levels of the domestic production or its global competitiveness. The used exchange rate should be the shade exchange rate. If the DRC value is less than one, it means that the state economy saves foreign currencies out of the domestic production as the alternative opportunities costs of its domestic resources are less than what it obtains from net foreign currencies (in the case of exports) or saving (in the case of import replacement) as it refers to global efficiency and competitiveness. On the contrary the opposite is true. If the DRC value is more than one, it means that the state economy saves foreign currencies out of the domestic production as the alternative opportunities costs of its domestic resources are more than what it obtains from net foreign currencies in the cases of exports and imports. If the DRC value equals one, this refers to the equal state economy as it neither obtains nor provides net foreign currencies fro, the domestic production.

Second: the net economic benefit

This indicator reflects the difference between the production total value and the total cost for all inputs whether traded, non-traded or primary inputs. This difference is assessed by the economic prices particularly the limit prices and shade prices. The economic benefit reflects the economic surplus resulted from the productivity process. This indicator is computed based on the measure of the domestic resource cost as follows:

$$NEB = E - F - G$$

Where:

E= modified limit price for the product unit

F= cost of the non-traded inputs by the shade prices

G= the domestic resource cost in shade prices

The net economic benefit interpretation depends on the domestic resource cost value. If the DRC value is less than

one, the benefit sign will be positive and reflect the resource efficient use. If the DRC value is more than one, the benefit sign will be negative and reflect the inefficient resource use. The benefit will equal zero if the DRC value equals one. The DRC value and NEB depend on some factors such as the adopted production method, production capacity, production zone; the demand levels at both internal and external markets and exchange rate. It reflects current efficiency and does not contain adequate information to make future decisions.

Computation way of relative privilege transactions for different meat production in Egypt:

The DRC indicator is considered as one of the relative privilege efficiency measures of the domestic and the net economic benefit as well. Their computation can be possibly simplified by assuming that the requirements of commodity production elements are somehow similar to another alternative product. The traded inputs constitute a rate which does not exceed 30% or less than the used total cost of the production process. Then, the DRC can be estimated while taking into considerations the commodity relative productivity and its limit prices trough comparing the commodity total value to its best selected alternative counterpart valued in limit prices. This research has relied on the net ratio which expresses the animal net weight after the slaughtering process estimated in the cows and buffalos about 55%, poultry 73%, and fish 70%.

Therefore, the meat types DRC can be computed based on the following mathematical relations:

- Red meat DRC= poultry limit price* poultry net ratio/
- Red meat limit price* red meat net ratio
- Poultry DRC= fish limit price* fish net ratio/
- Poultry limit price* poultry net ratio
- Fish DRC= red meat limit price* red meat net ratio/Fish limit price* fish net ratio

Domestic resource cost of various meat production in Egypt:

Table 1: the domestic resource cost of red meat , poultry and fish in Egypt during the period (1994- 2012).

year	domestic resource cost of red meat	domestic resource cost of poultry	domestic resource cost of fish
1994	1.039	0.419	2.300
1995	0.879	0.481	2.367
1996	1.713	0.240	2.435
1997	3.181	0.136	2.312
1998	1.123	0.332	2.686
1999	1.228	0.324	2.513
2000	1.267	0.341	2.316
2001	1.144	0.330	2.651
2002	1.122	0.312	7.565
2003	0.937	0.260	4.111
2004	0.919	0.376	2.899
2005	0.490	0.680	3.003
2006	0.962	0.343	3.033
2007	1.000	0.794	1.258
2008	0.931	1.115	0.962
2009	0.496	1.666	1.210
2010	0.607	1.174	1.404
2011	0.798	0.795	1.577
2012	0.301	2.191	1.518

Source: Calculated and collected from website of the world food Program, Arab organization for agricultural development, the central agency for public mobilization and statistics.

Table 2: the net economic benefit of red meat , poultry and fish in Egypt during the period(1994- 2012)

year	net economic benefit of red meat	net economic benefit of Poultry	net economic benefit of Fish
1994	negative	positive	negative
1995	positive	positive	negative
1996	negative	positive	negative
1997	negative	positive	negative
1998	negative	positive	negative
1999	negative	positive	negative
2000	negative	positive	negative
2001	negative	positive	negative
2002	negative	positive	negative
2003	positive	positive	negative
2004	positive	positive	negative
2005	positive	positive	negative
2006	positive	positive	negative
2007	zero	positive	negative
2008	positive	negative	positive
2009	positive	negative	negative
2010	positive	negative	negative
2011	positive	positive	negative
2012	positive	negative	negative

Source :- calculated form table (1)

The DRC study of red meat poultry and fish as shown in Table no. 1 shows the DRC ranged between more than one and less than one during the study period. As to the red meat, the indicator value is more than one over the years (1994-1996, 1997, 1998, 1999, 2000, 2001, 2002). This shows Egypt did not have the relative privilege of red meat production over these years, so meat importing could be better than its domestic production. In addition, the domestic production cost exceeds the state's ability to provide net foreign currencies. Thus, the economic benefit result is negative as shown in Table no. 2. As to the year 2007, it is indicated that the resource unit cost is one. Thus, the economic benefit result equals zero as shown in Table no. 2,1. As to the other years, the DRC value of red meat production is less than one. This indicates that the red meat domestic production has enjoyed over these years the relative privilege and domestic production efficiency due to the reduction of its domestic production cost compared to its importing besides the foreign currencies saving. Therefore, the economic benefit in this case is positive over these years.

As to the poultry meat resource, it has regularly enjoyed the relative privilege over most of the study years from 1994 till 2007. Then in 2011 the DRC indicator value was less than one as shown in Table no. 1. This indicates the domestically production cost reduction as compared to the state's ability to provide foreign currencies and its importing. Therefore, the economic benefit is positive as shown in Table no. 2. Table no. 2 indicates that there are three consecutive years from 2008 till 2010 and then 2012 in which the state had lost its relative privilege of poultry meat production where the

domestic cost indicator exceeded one and the economic benefit was negative as shown in the results of Table no. 2,1.

The study of fish domestic resource production cost as shown in Table no.1 indicates that Egypt did not have relative privilege during the study period except in 2008. This product importing was better than its domestic production due to its high production cost compared to its importing. This is indicated by the high value of the DRC indicator which exceeds one as shown in referred table. In addition, the domestic production cost exceeds the state's ability to provide the net foreign currencies. Therefore, the economic benefit is negative as shown in Table no. 1.

Therefore, the study results can be summarized in the light of the early-mentioned facts as follows:

Egypt has enjoyed high relative privilege of poultry meat production estimated about 78.9% during the study period, immediately followed in terms of importance by the relative privilege of red meat production estimated about 52.6% during the study period. The reduced relative privilege of poultry and red meat production estimated almost 21.1% for poultry and about 47.4% for red meat due to technical reasons of the production process such as the increased animal death ratio than its natural ratio because of the weather changes of which Egypt has suffered, particularly the regular effect of poultry production, the carelessness of livestock keepers of certain important aspects such as sound feeding and healthcare that directly affect the red meat production. As to fish production in Egypt, it is indicated that Egypt has not enjoyed relative privilege in its production due to the state's negligence of that domestic production type and the indifference of various fish farming in Egypt although Egypt has several resources which qualify her to dominate fish production in the Arab region mainly because of the Nile river existence, Lake Nasser, the Mediterranean Sea and the Red Sea besides the natural fishing areas in Egypt represented in the marine waters stretched along the cost of 2.7 thousand kilometers, the distance of waters platform (deeply stretched into the sea at 200 meters) 87.1 thousand kilometers square, distance of fresh waters stretched 756 thousand kilometers square and drinkable waters distance of 1.2 million meters square.

Therefore, the study's most important recommendations to develop the Egyptian meat production can be summarized as follows:

As to the red meat, it is necessary to work at two main trends. The first is horizontal which aims to double the currently existent numbers of different animals whereas the second aims to elevate the animal production efficiency of meat, dairy and secondary related products. This can be realized through following the main keeping methods such as registration, artificial insemination, balanced feeding, good healthcare represented in protection and treatment. In addition, it is necessary to activate the livestock insurance fund in the crisis cases which producers go through. The fund services are restricted to the insurance of various livestock types and paying partial compensation estimated almost 75% of the animal value and paying additional aid estimated 25% of the paid compensation value to buy an

alternative livestock. The fund provides and pays treatment cost for insured animals at the veterinary units through the economic veterinary treatment fund.

As to fish, the most important negative aspects contributed to the reduction of Egyptian fish production relative privilege during the study period should be handled. These negative aspects include current shortage of fish farming breeding which is considered as the most important main element of Egyptian fish farming. This leads to the production reduction of the currently exploited areas from the normally supposed rates. The high rate of lost breeding over its various stages of farming from its accumulation and hatching centers which are usually away from the fish farming centers; a matter that leads to high lost rate of fish breeding due to the long distance of transportation. This matter necessitates the establishment of artificial hatchings to hatch the marine fish near by the fish farming centers. So as to lessen the possible lost size of fish breeding. In addition, fertilizers and fodders shortage on which this industry depends. Moreover, the additional food placed in the farming sites which distinguish that industry and added to the manufactured fodders and food of agricultural wastes such as ALKUSB hay and artificial fodders on which the livestock and poultry industry relies. Furthermore, the water resources as the agricultural policy aims to avoid the fresh waters use which include the Nile waters in the fish farming processes for the purpose of preservation and expansion of new land agriculture and reclamation. This problem can be overcome by using the agricultural sewerage waters, drainage waters, ground waters and marine waters in the fish farming. The agricultural sewerage waters are considered as one of the main resources to meet waters current needs of most of the exploited areas for the purpose of fish farming. Therefore, the Egyptian fish wealth development requires the investors' encouragement to invest in the fish farming, provides all necessary potentials and needs for industrialize process of fish farming in Egypt. Finally, it is necessary to pay attention to management efficiency as the hectare production of fish farming ranged in different countries between 550 kilograms to 6.6 tons. This difference is attributed to management reasons.

6. Summary

In spite of the animal wealth importance in Egypt as one of the main resources of the national income and agricultural production increase as it directly contributes to resolve the unemployment problem and as an important source of providing the animal protein, it is found that the animal protein individual per capita is reduced compared to its counterpart in the developed countries. The Egyptian importing size of meat increased to cover the meat gap by about 42.4% in 2012 compared to 1994. Therefore, the main aim of the study is to examine the effect of Egyptian agricultural policies on meat production in Egypt during the period (1994-2012). Realizing this aim, the study data collection has relied on the some electronic sites besides the estimates of relative privilege indicator through the computation of domestic resource cost and the net economic benefit of various meat types (red meat, poultry and fish). The most important results of the study are that Egypt has enjoyed high relative privilege production of poultry meat

estimated 78.9%, immediately followed by relative privilege of red meat production estimated 52.6%. However, it is found that Egypt has not enjoyed of relative privilege of fish production during the period (1994-2012). Therefore, the study's most important recommendations to develop the Egyptian meat production are summarized in the following points. As to the red meat, it is necessary to work at two main trends. The first is horizontal which aims to double the currently existent numbers of different animals whereas the second aims to elevate the animal production efficiency. In addition, it is necessary to activate the livestock insurance fund. As to fish, the most important negative aspects contributed to the reduction of Egyptian fish production relative privilege during the study period should be handled. Most importantly are the existent shortage of fish breeding, shortage of fodders and fertilizers. It is necessary to overcome the problem of using the Nile waters in the fish farming through using the agricultural sewerage waters, drainage waters, ground waters, marine waters and finally, it is necessary to pay attention to the management efficiency.

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