



UNIVERSITI PUTRA MALAYSIA

***ECONOMIC ANALYSIS OF PRICING POLICIES OF MEAT PRODUCTS
IN IRAQ***

SARMAD ALI HUSSEIN

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By

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**Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

September 2017

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DEDICATION

My dissertation is dedicated to each person seeking to prove his worth and entitlement of access to the highest ranks and prove his ability and contribute to the development of their country. Each person able to give a true picture of the efficiency and capacity scholar. Moreover, to my parents, my wife, my children and my brothers and sisters and for those who mentored me thank you to invest time and effort in helping me to succeed. My hope for the future is that I will have a similar effect on the life of another person.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in Fulfillment
of the requirement for the Degree of Doctor of Philosophy

ECONOMIC ANALYSIS OF PRICING POLICIES OF MEAT PRODUCTS IN IRAQ

By

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September 2017

Chairman : Associate Professor Norsida Man, PhD
Faculty : Agriculture

Price policy is a tool used to motivate producers to increase production. It aims to balance the interests of producers and consumers, as well as the government. Demand for meat in Iraq has increased significantly over the years. The livestock sector is suffering from higher prices and an increase in costs. There are two (2) approaches to support which can be output price or input price policies. These policies require considerable funds from the government treasury. This study examines the effects of state intervention in the pricing of meat products (beef and fish) in Iraq for the period 1985-2013. It aims to measure protection coefficients to determine whether support is benefit of producers or consumers. Also to determine multiple effects of the single market model for government policy of output price support and input price support.

Methodologies used in this study include annual time series data from 1985 to 2013 which were obtained at the national level which are a whole for prices of beef and fish, production and consumption, input prices and local currency exchange rate. The analysis was based on the use of several mathematical formulas that depended on economic theory so called partial equilibrium framework.

Results indicated that the net nominal protection coefficients for beef computed based on the shadow exchange rate were greater than one that means beef producers received motivation except for years 1991, 1992, 1994 and 1996 when consumers were protected. While for fish, the values of the nominal protection coefficient do not clearly show whether producers or consumers benefited more from government intervention policy. Consumers of fish benefited during the periods 1987-1999 and 2011-2013 while producers also benefited during the period covered. The results of multi-effects for the single market model are based on a set of criteria. With respect to the change in government revenue, for beef, it is positive for most of the years, implying that the government earned revenue as a result of the subsidy policy except for the years 1991, 1992, 1994 and 1996. For fish, there is indication of a negative

change in government revenue which implies lower revenue for the government for the period 1987-1999 as well as 2011-2013 due to the policy support for fish. For the rest of other years, there was a positive change in government revenue for fish.

The computed values of the net economic losses in production and consumption reveal the existence of economic loss in both production and consumption of beef and fish. The change in consumer surplus for beef is negative for most of years which mean that there is a decrease in consumer welfare for most of the years with the exception of years 1991, 1992, 1994 and 1996 in which the change in consumer surplus is positive. On the other hand, the change in consumer surplus with respect to fish is positive during the periods 1987-1992, 1994-1999 and 2011-2013, indicating an increase in the welfare of consumers of fish. The change in producer surplus for most of the years is positive in relation to beef, suggesting an increase in the welfare of beef producers while change in producer surplus for fish is negative for most of years of study. In terms of cost of price support for beef, it is negative with respect to the consumer for all years because the unit price paid by consumers of beef was higher than the product price. With respect to fish, it is also negative for the consumer for most of the years. This suggests that, the government gained revenue as a result of the price policy, as the recommended retail price was greater than the purchase price of product. The results show that the government supported the input price for beef and fish production during the study. This is because the price at which these inputs were sold to producers was less than their purchase price. This means that government pricing policy of supporting the inputs for beef and fish benefitted producers for most of the years. In addition, when the government supports input price, it entails a cost which arises as a result of the application of the subsidy program.

Comparing the results for beef and fish reveals that government support policy favored the producers of beef more than consumers. In the case of fish, government price policy did not specifically discriminate one group relative to the other. Overall, the policy of input price support for the production of meat is the preferred policy because it exerts fewer burdens on the government budget. The study recommends that the government should determine the prices of meat in order to incentivize producers to increase domestic production and protect consumers. It is important to pay attention to the equilibrium exchange rate which affects the real values of producer and consumer prices. The current price policy should be redesigned to achieve a delicate balance between the welfare of producers and consumers and ensure efficiency in the use of local resources in the production and consumption of meat. The output price support policy for meat must be consistent with that of the input price support so that the implementation of each of them can be advantageous. The government should give priority to the development of the livestock industry through the development and rehabilitation of projects in order to expand production and achieve food self-sufficiency.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

ANALISIS EKONOMI POLISI HARGA PRODUK DAGING DI IRAQ

Oleh

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Polisi harga adalah satu polisi yang digunakan untuk memberi motivasi kepada pengeluar untuk meningkatkan pengeluaran. Ia bertujuan untuk mengimbangi kepentingan pengeluar dan pengguna serta kerajaan. Permintaan untuk daging di Iraq telah meningkat dengan ketara sejak beberapa tahun. Sektor ternakan menerima kesan hasil daripada harga yang tinggi dan peningkatan kos. Terdapat dua (2) pendekatan untuk menyokong iaitu polisi harga output atau harga input. Polisi ini memerlukan dana yang besar dari perbendaharaan kerajaan. Kajian ini mengkaji kesan campur tangan kerajaan dalam penentuan harga produk daging (daging lembu dan ikan) di Iraq bagi tempoh 1985-2013. Kajian ini bertujuan untuk mengukur pekali-pekali perlindungan untuk menentukan sama ada sokongan adalah untuk faedah pengeluar atau pengguna. Ia juga bertujuan untuk menentukan kesan pelbagai model pasaran tunggal bagi sokongan harga output dan sokongan harga input polisi kerajaan.

Kaedah-kaedah yang digunakan di dalam kajian ini termasuklah data siri masa tahunan dari 1985 hingga 2013 yang diperoleh di peringkat kebangsaan secara keseluruhan bagi harga daging lembu dan ikan, pengeluaran dan penggunaan, harga input dan kadar pertukaran mata wang tempatan. Analisis ini adalah berdasarkan kepada penggunaan beberapa formula matematik yang bergantung kepada teori ekonomi yang dipanggil rangka kerja keseimbangan separa. Keputusan menunjukkan bahawa pekali perlindungan nominal bersih bagi daging lembu yang dikira berdasarkan kepada kadar pertukaran bayangan adalah lebih besar daripada satu yang bermakna pengeluar daging lembu mendapat motivasi kecuali bagi tahun-tahun 1991, 1992, 1994 dan 1996 apabila pengguna dilindungi. Sementara bagi ikan, nilai pekali perlindungan nominal tidak jelas menunjukkan sama ada pengeluar atau pengguna yang mendapat manfaat daripada polisi campur tangan kerajaan. Pengguna ikan mendapat manfaat semasa tempoh 1987-1999 dan 2011-2013 manakala pengeluar juga mendapat manfaat dalam tempoh tersebut. Keputusan kesan pelbagai untuk model pasaran tunggal adalah berdasarkan kepada satu set kriteria. Dari segi perubahan pendapatan kerajaan, untuk daging lembu adalah positif untuk kebanyakan tahun, yang menunjukkan bahawa kerajaan memperoleh pendapatan akibat daripada polisi subsidi kecuali bagi tahun 1991, 1992, 1994 dan 1996. Untuk ikan, terdapat

petunjuk tentang perubahan negatif dalam hasil kerajaan yang menunjukkan pendapatan yang lebih rendah bagi kerajaan bagi tempoh 1987-1999 dan juga 2011-2013 disebabkan oleh polisi sokongan untuk ikan. Untuk sepanjang tahun-tahun yang lain, terdapat perubahan positif dalam pendapatan kerajaan untuk ikan.

Nilai-nilai kerugian ekonomi bersih yang dikira di dalam pengeluaran dan penggunaan menunjukkan kewujudan kerugian ekonomi di dalam kedua-dua pengeluaran dan penggunaan daging lembu dan ikan. Perubahan di dalam lebihan pengguna untuk daging lembu adalah negatif bagi kebanyakan tahun yang memberi erti bahawa terdapat penurunan dalam kebajikan pengguna untuk kebanyakan tahun kecuali tahun 1991, 1992, 1994 dan 1996 di mana perubahan dalam lebihan pengguna adalah positif. Sebaliknya, perubahan lebihan pengguna untuk ikan adalah positif bagi tempoh 1987-1992, 1994-1999 dan 2011-2013, menunjukkan peningkatan kebajikan pengguna ikan. Perubahan dalam lebihan pengeluar untuk kebanyakan tahun adalah positif untuk daging lembu, menunjukkan peningkatan dalam kebajikan pengeluar daging lembu manakala perubahan lebihan pengeluar untuk ikan adalah negatif bagi kebanyakan tahun kajian. Dari segi kos sokongan harga untuk daging lembu ia adalah negatif dari segi pengguna bagi semua tahun kerana harga unit yang dibayar oleh pengguna daging lembu adalah lebih tinggi daripada harga produk. Bagi ikan pula, ia juga negatif untuk pengguna bagi kebanyakan tahun. Ini menunjukkan bahawa kerajaan memperoleh pendapatan hasil daripada polisi harga memandangkan harga runcit yang disyorkan adalah lebih besar daripada harga pembelian produk. Keputusan menunjukkan bahawa kerajaan menyokong harga input untuk daging lembu dan pengeluaran ikan semasa kajian. Ini kerana harga di mana input-input ini telah dijual kepada pengeluar adalah kurang daripada harga pembelian mereka. Ini bermakna bahawa polisi harga kerajaan yang menyokong input untuk daging lembu dan ikan memberi manfaat kepada pengeluar pada sebahagian besar tahun-tahun tersebut. Sebagai tambahan, apabila kerajaan menyokong harga input, ia melibatkan kos yang timbul akibat daripada penggunaan program subsidi itu.

Perbandingan antara keputusan untuk daging lembu dan ikan menunjukkan bahawa polisi sokongan kerajaan memanfaatkan pengeluar daging lembu lebih daripada pengguna. Dalam kes ikan, polisi harga kerajaan tidak secara khususnya membezakan satu kumpulan dengan yang lain. Secara keseluruhannya, polisi sokongan harga input untuk pengeluaran daging adalah polisi yang digemari kerana ia mengenakan kurang beban ke atas bajet kerajaan. Kajian ini mengesyorkan bahawa kerajaan perlu menentukan harga daging untuk memberi insentif kepada pengeluar supaya meningkatkan pengeluaran dalam negeri dan melindungi pengguna. Adalah penting untuk memberi perhatian kepada keseimbangan kadar pertukaran yang menjejaskan nilai-nilai sebenar harga-harga pengeluar dan pengguna. Polisi harga semasa harus direka semula untuk mencapai keseimbangan yang halus antara kebajikan pengeluar dan pengguna dan memastikan kecekapan dalam penggunaan sumber tempatan dalam pengeluaran dan penggunaan daging. Polisi sokongan harga output untuk daging mesti konsisten dengan sokongan harga input supaya pelaksanaan setiap satu polisi boleh membawa faedah. Kerajaan perlu memberi keutamaan kepada pembangunan industri ternakan melalui pembangunan dan pemulihan projek untuk mengembangkan pengeluaran dan mencapai tahap sara diri makanan.

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LIST OF ABBREVIATIONS

GDP	Gross Domestic Product
000ID	Thousand Iraqi Dinar
Km ²	Square Kilo meter
NBS	Central Bureau of Statistics
AOAD	Arab Organization for Agricultural Development
Kg	Kilo Gram
NPC	Net Nominal Protection Coefficients
GNPC	Gross Nominal Protection Coefficients
GESS	Generalized Econometric Spreadsheet Simulator
IPM	Integrated Pest Management
ESCWA	Economic and Social for Western Asia
PAM	Policy Analysis Matrix
HYV	High-Yielding Yarely
WTO	World Trade Organization
OECD	Organization for Economic Co-operation and Development
USD	United State Dollar
VAR	Vector Auto regression
CIF	Cost Insurance and Freight
FOB	Freight On Board
EER	Equilibrium Exchange Rate
OER	Official Exchange Rate.
PPP	Purchasing Power Parity
SCF	Standard Conversion Factor

SER	Shadow Exchange Rate
Δ GR	Change in Government Revenue
NELC	Net Economic Loss in Consumption
NELP	Net Economic Loss in Production
Δ CS	Change in Consumer Surplus
Δ PS	Change in Producer Surplus



CHAPTER 1

INTRODUCTION

The focus of the present study is to examine the impact of price policy on the production of various kinds of meat in Iraq. Meat is an important commodity for the society and this introductory chapter presents the economic importance of meat, general background related to meat production and distribution in the country, the meat industry and its problems in Iraq during the period covered in the study (1985-2013). In addition, some general information was discussed about the geographical location, area and population of Iraq and a review of some important economic indicators of the Iraqi economy. Further, the problem statement as well as the objectives of the study and its importance are presented.

1.1 General Information

Iraq is located in the temperate zone of the northern hemisphere and neighbored by a number of Arab countries namely Syria, Jordan, Saudi Arabia and Kuwait, as well as non-Arab countries of Turkey and Iran. Historically, Iraq is of special importance due to its distinctive in connecting the continents of Asia, Africa and Europe. Due to its location, it serves as the shortest route between the Indian Ocean and the Mediterranean, thus making Iraq one of the most important countries in the world. Iraq is characterized by a continental climate which is hot and dry in summer, cool and wet in winter and can be distinguished into four distinct seasons.

The population of Iraq is about 33.3 million as at 2011 and has an annual population growth rate of about 3% per year according to statistics from the Ministry of Planning. The population of rural inhabitants is about 10.3 million while urban dwellers are about 23.0 million. Iraq has a total labor force of 10.8 million, but the labor force in agriculture is about 1.5 million according to statistics of the Arab Organization for Agricultural Development.

1.1.1 Iraqi Economy

Iraq has many resources such as farmland, rangeland, livestock, oil and natural minerals, abundant water and rain. These resources are not being used in a balanced way to achieve development and economic growth and desired social well-being. Iraq's economy is dependent mainly on the extractive sector (oil sector) and all development plans that have been adopted previously relied on public funding through income generated from this sector. Crude oil exports have accounted for less than 94% of the value of Iraq's exports during the period from 1970 to 1990, as the proportion of capital and intermediate goods of the total of Iraq's imports during the said period amounted to 74% and also 53% of the proportion of imported intermediate goods is used in the manufacturing industries sector. Totalitarian directions of economic

policies have contributed in driving the economy away from the elements of efficiency and competitiveness in the production of commodities. For example, the dominant role of state policies in creating market advantages for members of the community to achieve economic benefits has weakened the role of the private sector, leading to the low output of the manufacturing industry and its contribution to the Gross domestic product (GDP).

Iraq's economy is often influenced by political and social circumstances experienced by the country. The exposure of Iraqi economy to many shocks and crises has considerably undermined the economic development of the country in spite of its enormous economic potential because it was not possible to cope with these shocks and crises. The real shock was the war at the beginning of the eighties that drained the material resources of the community completely (not to mention human) in addition to the accumulated debt. The combined effects of the above-mentioned conditions led to the destruction of infrastructure, the deterioration of economic activity, high poverty and increased unemployment and inflation rates to dangerous levels.

During the war in 1990, and after a strain to destroy the economy, especially after the release of a large number of international resolutions issued in August 1990 including the imposition of economic sanctions such as the economic embargo which led to the isolation of Iraq and its economy from the outside world, there was increased inflationary pressures which with the passage of time had an impact on the value of exchange rates. The exchange rate increased from 7.5 dinars per one dollar in 1991 to more than 2,500 dinars per dollar by the end of 1995. The nineties of the last century also has been the base engine in the worsening deterioration of the economy after the economic mismanagement coupled with the erosion of the value of savings and real wages and the growing number of unemployment.

The last war led by the United States against Iraq in the first quarter of 2003 had a negative impact on most of the infrastructure and all institutions and companies in addition to looting and arson. All production works were stopped for various reasons including security conditions, power outages and the unavailability of spare parts or raw materials. The Iraqi economy also suffers from distortions in the price structure and the structural imbalances in the balance of trade, manpower and budget deficit which hinder the movement towards progress and achieving higher rate of economic growth. Therefore, beginning the development of a project to reform the Iraqi economy the government has issued decree legislations and laws and taken measures that have affected many areas including foreign investment, infrastructure, banking system, taxation, property, monetary stability (Jurani, 2011).

In short, the government has placed emphasis on the importance of rehabilitation of the Iraqi economy through the adoption of policies of economic reform in order to reposition the economy. Specifically, it has embarked on the work of a radical change in economic policies such as reducing the burden borne by the state budget by removing support for projects not economically beneficial and directing public

spending to support infrastructure and economic institutions of strategic importance , the development of the domestic financial market and encouragement of trade to ensure the development of productive capacities , creating an enabling environment for the private sector to play its role in the production process in order to participate in the mobilization of domestic resources for economic and social development of the Iraqi economy .

1.1.2 Iraq Economic Indicators

Based on the previous review of the reality of the Iraqi economy, in general it can be noticed that the economy is plagued with several problems because of the political conditions that the country is going through. Consequently, there is need for a comprehensive economic reform in the Iraqi economy aimed at providing the basic needs of goods and services to all members of the public in general and the poor in particular, and create jobs to accommodate the continued increase in the labor force caused by the increase in population. In addition, there is need for improving the balance of payments, balance revenue with the state budget and expenditure, control and gradually reduce inflation. These require more than relying on the market mechanism, but designing policies that will encourage the private sector to do the financing and management of investments and to manage economic, financial, monetary and administrative policies in order to achieve a better use of available resources to compensate destroyed production capacity and promote the addition of new productive capacities to the national economy.

There are several important economic and social indicators that reflect the economic and social situation of Iraq and provide useful tools for analyzing the behavior of the Iraqi economy and forecasting changes in these indicators in the future. These important economic indicators are also needed and employed by planners in designing policies that ensure the advancement of the Iraqi economy.

A major concern of Iraq's economy is its dependence only on exports of the oil sector. As at 2011, oil sector alone accounted for 42.9% of GDP which represents a decline from its former level of about 54.6% in 2002. This situation makes Iraq's economy to perform less than the required level necessary for economic development. Also, other activities such as manufacturing industry, electricity, water, telecommunications and banks account for about 8.5% of GDP. Accordingly, it becomes important to design economic policies geared towards the development of these sectors in order to diversify the Iraqi economy to an omnidirectional multi-resource economy.

The key indicators of the Iraqi economy are exhibited in Table 1.1. Gross domestic product (GDP), which is defined as the total value of goods and services produced from various economic activities of the country's economy, stood at 251,667 billion Iraqi dinars in 2012 as against 211,310 billion Iraqi dinars in 2011, representing an increase of about 19.1%. This increase is attributable to the high world oil prices in

addition to the high amount of oil produced and exported during that year (Ministry of Planning, 2012).

The per capita GDP, which is the result of dividing the gross domestic product by the population of the country for a particular year, increased from 6359.6 thousand dinars in 2011 to about 7357.1 thousand dinars in 2012. This represents an increase of about 15.7% which was achieved due to increase in the GDP as noted previously. Further, the consumer price index recorded a growth rate of about 5.6%, which shows that there is an increase in inflation.

In terms of international trade, which reflect that the country transacts with the outside world, exports increased to around 94.4 billion dollars in 2012, which was higher than the 83.2 billion dollars recorded in 2011 and represents an increase of about 13.5%. The increase in exports was occasioned by high world oil prices and also the fact that oil account for most of Iraq's export revenue. Similarly, imports also increased from a level of 49.1 billion in 2011 to 56.2 billion dollars in 2012, which is about 14.5% increase and occurred because Iraq depends on imports to fill the needs of local goods and services. More so, domestic production is not sufficient to fill the needs of the society.

Agricultural production and how to address some of the problems facing the agricultural sector is the primary focus of this study. The value of agricultural production, both plant and animal, increased from about 8808.6 billion dinars in 2011 to about 10193.9 billion dinars in 2012, implying an increase of about (15.7%). Also, the per capita value of agricultural production has increased by 12.7%, which is due to an increase in per capita agricultural production to about 298.1 thousand dinars in 2012 from its level of 264.5 thousand dinars in 2011. In spite of this, it is clear that the percentage contribution of agricultural production to the GDP did not increase from its previous level of around 4.05%. This means that agricultural production is still below the level required to fill the needs of the country especially in the important areas of food and the industrial sector.

Therefore, experts in the field of agriculture need to place more emphasis on revamping this sector in terms of raising the level of production of crops and livestock by formulating agricultural policies that can lead to the growth and development of this sector. Significant outcomes can be achieved through the use of the means of production technology, educating farmers and encouraging them to increase agricultural production in order to for the agricultural sector to supply the inputs for other sectors of the economy and to enhance the growth of Iraq's economy and to attain self-sufficiency.

Table 1.1 : Iraqi Economic Indicators

Indicators	2008	2009	2010	2011	2012	Change%
Gross Domestic product (GDP) (Billion ID)	157026.1	130642.2	158521.5	211310.0	251667.0	19.1
Population (million)	30.6	31.7	32.5	33.3	34.2	2.7
Average per capita GDP (000ID)	5135.3	4125.8	4887.1	6359.6	7357.1	15.7
The index of consumer prices (2007=100)	112.7	122.1	125.1	132.1	140.3	5.6
Average Exchange Rate of Iraqi Dinar Per USD	1203	1182	1185	1196	1233	3.1
Total exports (\$ billion)	61.3	41.8	52.5	83.2	94.4	13.5
Total imports (\$ billion)	29.7	35.3	27.4	49.1	56.2	14.5
Value of Agricultural production (billion ID)	8508.5	9084.0	10785.3	8808.6	10193.9	15.7
Percentage of contribution of GDP%	5.42	6.95	6.8	4.17	4.05	---
Average of the per capita agricultural production (000ID)	278.1	285.4	331.9	264.5	298.1	12.7

(Source: Ministry of Planning (2012). Report Statistical indicators for the economic and social situation in Iraq)

1.2 Economic Policy

Economic policy can be defined as the means and procedures used by the state to stabilize the economic aspect of society. This economic stability requires the integration of actions taken by using diverse tools for each economic policy (Khalil, 1994). This integration is a connection between different parts of the system, where the impact of each tool is affected by the other tools in a balanced and harmonious manner in order to achieve the desired goal of economic policy, which is to achieve economic stability of the country through the various activities of economic sectors such as agriculture, industry, trade, transport, and education.

It also requires the achievement of the goals of a business which consists of a group of overlapping parts that interact with each other, and are connected with each other. Each part has a specific function that is necessary for the system as a whole to work. This could be considered as a systemic approach or a framework of analytical and systematic planning which enable us to progress towards particular goals by means of

disciplined work, including the parts that make up the whole system, which is integrated and intertwined and interact those parts according to their functions carried out to achieves the objectives identified for the task. This system is in a permanent state of dynamic change. Systemic thinking that makes sense, derives its origins from the reality of human life since the dawn of history, and finds applications in various aspects of contemporary life, and at all levels of local, regional and international on the one hand and economic and social development on the other (Kandel , 2012).

Economic stability is the main objective of economic policy which all countries attempt to achieve. This is because economic stability enhances the achievement of several goals like:

- 1) To achieve full employment at maximum operating capacity in the economy.
- 2) To exploit available economic resources of a country for the best use of the national economy in order to achieve the greatest possible physical output or national income.
- 3) Also, to maintain the value of money and prevent the emergence of rise in inflation as a result of sudden demand in addition to facing a recession or depression as a result of lower size of aggregate demand. So the community will avoid the negative effects of inflation, low purchasing power of money, damage of the standard of living for low income people, as well as unemployment and a halt of productive activities.
- 4) To achieve a balance between aggregate demand and aggregate supply, strike a balance between investment and savings, exports with imports, public expenditures with income, and economic growth rate and population growth, economic stability means high standard of living and improvement of all micro and macroeconomic variables. In other words, economic policy works to strengthen the economy in the face of significant internally and externally challenges faced by the country.

1.3 Agricultural Economic Policy

Agricultural economic policy refers to the principles, procedures and rules that are employed in planning so as to ensure the achievement of established economic and social objectives. Agricultural policy is also part of the measures to achieve production targets through agricultural development plan, agricultural adjustments, and raising the standard of living of agricultural producers (Hussein, 2006). Consumers also play a part in achieving the objectives of agricultural policy because the consumer represents the final phase of an integrated link between producer prices and consumer prices which involves knowledge of changes in prices between the producer and the consumer.

Agricultural economic policy can be viewed as an important part of the general economic policy of a country. Agricultural economic policy is the actions and means adopted by the state to achieve economic stability in the agricultural sector for the purpose of development. Agricultural economic policy involves appropriately guiding

strategies existing or to be designed in the future and that the state must stimulate scientific and technological development in the field of agro-industry. The aim of agricultural policy is to achieve the objectives of national development through increases in household income, food security, adequate nutrition, and employment. Agriculture has been identified as one of the main sources of growth in national economy and improvements in the agriculture sector with respect to value added and improved technology such as modern farming methods can translate to the reduction in levels of unemployment and increase agricultural production (Byaruhanga, 2013).

Agricultural policy plays a major role in guiding the allocation of economic resources. Economic resources can be exploited in order to increase production and raise the productivity of factors of production and the living standards for workers in the agricultural sector. Therefore, the prosperity of this sector can lead to significant improvements in economic well-being. Iraq's Ministry of Agriculture is an enterprise which implements agricultural policy with the aim of achieving development of the agricultural sector through the development of appropriate plans and through researches that address the problems within the agriculture sector. The ministry is also involved in instructing peasants and farmers on the application of best agricultural techniques.

Agricultural development in Iraq requires a new approach in accordance with the economic changes experienced by the country by adopting scientific methods and results of agricultural research in the areas of plant and animal production. There is need to take into account economic changes experienced after the events of 2003 and begin the gradual process of transition from central planning to a market-oriented economy. Iraq is faced with economic problems in the agricultural sector which suffers from low productivity of agricultural crops. The agricultural sector contributes little to the composition of gross domestic product (GDP) and it is thus essential to develop a strategy for agricultural development in Iraq. In order to achieve this, there is need for appropriate solutions through a diagnosis of the restrictions imposed by the current state of agricultural development. This requires the conduct of scientific and applied research and through extension services which is a link between researchers and farmers. In addition, farmers must follow scientific methods of production and agricultural policy adoption through the creation of the means that increase the production capacity of factors of production used in the agricultural process. This will lead to significant increase in production efficiency of the individual or society in economic terms.

Comprehensive agricultural policy has a role in the agricultural development process. Hence, it is important to clarify the types of agricultural and economic policies in total and not separately in achieving agricultural economic policy objectives that will ensure economic and agricultural development.

1.3.1 Agricultural Production Policy

Agricultural production policy, also called the policy of providing food, is linked with all other agricultural policies and depends on the success of the other policies. The success of this policy depends on the results of the review of the evolution of indicators through food production to achieve self-sufficiency. In addition, this policy contributes to the country's food security which is linked to self-sufficiency in food production. Food security is defined as the availability of food at all levels: individual, national, and global. Arab Organization for Agricultural Development (AOAD) also defined food security as the availability of food in the quantity and quality needed for the health and activity of the individual and depends on increasing agricultural production, the variety of its products and comparative advantage in the production of food commodities in each country. It is when food is available to citizens at prices commensurate with the level of their income (AOAD, 1988).

In Iraq agricultural production policy includes the exploitation of agricultural land in the economic, social and institutional transformations which in the past has been guaranteed by the application of different models for the acquisition of agricultural land and the distribution of resources in the Iraqi countryside. Farmland varied between different systems such as cooperatives and collective farms, individual small businesses, agricultural projects, and extensive agricultural land. Each system consists of social and economic systems in varying forms and of varying success and failure when applied in accordance with the circumstances on ground. There has been an increase in the use of human resources for agricultural production in Iraq but despite rising Iraqi farmer's share of the agricultural land in comparison with many other countries, the Iraqi farmers are less productive. For example, one farmer's share of the agricultural land is about 2.5 acres in Iraq while in Egypt it is less than 0.5 acres, but the Egyptian farmers' productivity is twice that of the Iraqi farmer (Manhal, 2006).

1.3.2 Agricultural Marketing Policy

It describes the ideas and organized actions taken on the direction, supervision, intervention and control of the behavior of agricultural marketing activities with the aim of achieving objectives that serve farmers, consumers or intermediaries and to achieve a balance between these objectives at the same time serving the community. The marketing facilities that contribute to the marketing of agricultural products, as well as must make short-term, medium and long-term decisions related to their marketing operations, including related to the revenue can be achieved. Through many individual enterprises, agricultural commodities are traded after leaving the farm door, and through these facilities perform the functions of cleaning, sorting, packaging, manufacturing, transport and distribution. The economic motivation of these enterprises is to achieve rewarding returns on work or investments and thus strive to maximize their profits either by reducing costs or increasing returns from sales.

Many agricultural economists find the need for government intervention to improve marketing operations to the benefit of producers, consumers and the society as a whole by providing the necessary marketing facilities and creating the appropriate economic and social climate to achieve this by controlling agricultural prices, setting standards, regulations governing quality and standards, Market information and promote scientific research in agricultural marketing.

Agricultural marketing policy is an important part of the agricultural policy because of its role in providing marketing services of transport, storage, sorting, packaging and financing of commercial transactions. These services have importance in agricultural development and the economic benefit of both producers and consumers. Also agricultural marketing policy aims to achieve marketing efficiency by achieving price stability, reducing waste and providing goods to consumers or inputs at the lowest possible cost to producers. The marketing process in Iraq is still in the primitive stage where most of the farmers do not have regular stores for assembling their plant and animal products. In addition, Iraqi farmers do not yet realize the importance of sorting, grading and classification of crops and products accumulated and also do not realize the danger of leaving their products in the open space. This results in damage to a large proportion of the crops before reaching the market. Accordingly, the government has established many institutions and marketing associations to facilitate the task of marketing. However, the role of these cooperatives is still weak due to poor awareness among farmers and the desire for development. As for marketing, the government is working to buy products from farmers at remunerative prices for the purpose of storage and marketing (Manhal, 2006).

1.3.3 Agricultural Investment Policy

Public investments in Iraq are determined by the amounts appropriated by the state in the national plans for the development of the national economy; the so-called public investment spending. National development plans include ambitious goals for the performance of the national economy such as public investment spending and many diverse threads of spending on agriculture, industry, transport, buildings, services, education and scientific research. However, the first three aspects are the key aspects of the investment spending. Central finance policy is adopted by the government in investing in strategic development projects, infrastructure and development programs in the various economic sectors. Most investments were concentrated in areas largely dominated by the government because of the magnitude of the amount invested and the fact that the bulk of these projects provide public benefit for the society. This refers to the important role of the government in the distribution of total investment between the public and private sectors. During the period 1992-1998, the percentage contribution of the public sector to these investments is 65.9% while the contribution of the private sector is 34.2% of the total investment. In the agricultural sector, the private sector's role has been limited to some extent as the percentage contribution of the public sector is 86.9% of the total amount invested in the agricultural sector, high production depends on the rate of investment and the availability of agricultural loans encourages farmers to increase production. In Iraq, there are a lot of loan problems, including the lack of seriousness. There is also the problem concerning the role of the

Agricultural Bank, whose activity has become identified with monitoring the interest rate and how to recover the amounts given to farmers and not for the sake of increasing production. In addition, the lack of economic and technical feasibility evaluation of many projects before granting loans and advances led to defaults by borrowers.

During the period 2004 – 2009, there was an increased expansion of the Agricultural Bank to grant loans and advances to farmers in the production of red and white meat. However, the results are just the opposite, where each year witnessed rising prices, prompting the Ministry of Agriculture to form a committee to follow up on the problem of rising prices, since many of the producers who got the loans invested in other areas that are not agricultural and led to a waste of those loans. The government approved the Ministry of Agriculture to launch the loans to farmers for the establishment of greenhouses, which will guarantee economic viability if implemented fully for the cultivation of vegetables, especially tomatoes whose price fluctuates between 200 -1500 dinars depending on the volume of production (excess supply) or a lack of the product in the market,(Manhal,2005).

1.3.4 Agricultural Export and Import Policy

This is one of the most important elements of the economic reform program of the agricultural sector. It aims to promote exports and reduce imports of agricultural products, and include taxes and customs duties that are placed on agricultural goods as well as trade requirements in agricultural products. Foreign trade policy shows how a country deal with other countries and the World Trade Organization (WTO) for the implementation of trade laws and also provides trade negotiations between the programs of countries which is aimed at solving the problem of the agricultural sector through free trade laws for agricultural products. Iraq is characterized by reduced exports in general except for exports of dates, which is the main agricultural export commodity. Iraq's imports previously included imports of machinery and fertilizers, pesticides, seeds, feed, but currently it has also included imports of agricultural products due to lower domestic production.

Some of the consequences of Iraq's accession to the WTO are expected to include a number of policy changes in the foreign trade of agricultural products, the effective impact on traded goods structures and geographical distribution of the trend of exports and imports of agricultural commodities. The general objectives and the expectation of agricultural foreign trade policy of Iraq is the total liberalization of foreign trade in agricultural and food commodities in export and import, and to include more exemptions and reductions in taxes and import duties in order to improve production for exports and to open new markets for Iraqi exports and strengthen trade relations with other member countries of the WTO. It is known that agricultural exports are not stable, and exports occur only in the event of a surplus in production in excess of the need of the domestic market. However, the Ministry of Commerce has issued a list of agricultural goods allowed to be exported. It is expected that Iraqi exports of agricultural commodities will increase in the future in terms of quantity and diversity of these goods according to its comparative advantage and competitiveness.

1.3.5 Farmland and Water Policy

Water is the lifeblood. In addition, the development requirements of the world, the growing population boom, and the urban, agricultural and industrial expansion require adequate water supply. Rain is the limited water resources of countries. These resources should be conserved and utilized optimally to meet current water needs and for the future. Agriculture is the main consumer of water. It was necessary to balance the consumption of water and raise the efficiency of its use in addition to determining the actual water needs of plants. Therefore, technical standards and engineering conditions that are appropriate to the water, soil, environment, social and health conditions should be developed and the modern irrigation systems suitable for each crop should be defined, which ensures high efficiency in water use.

The availability of soil cannot be an economic resource, except it is exploited in the presence of water. Land policy aims at reclaiming farmland and configuration of agriculture and water policy aims at supplying water to arable land at the appropriate time, volume and according to the stage of plant growth. Also, it aims to reduce the waste of water during delivery to farms, in addition to the use of modern methods of irrigation. Iraq is rich in water which it derives from rivers (Tigris and Euphrates) along its territory and the abundance of water resources is known as the most important factor that helps in the promotion of the agricultural sector. Iraq suffers from many water problems with neighboring countries; these problems create delay in the agricultural development process. Iraq launched a specialized project to develop the use of modern irrigation technologies since 1999. The Ministry of Agriculture imports irrigation systems which use spray and drip during the process of irrigation of agricultural crops and also manufactures some of them locally.

1.3.6 Agricultural Credit Policy

The impact of the agricultural credit policy on the agricultural sector is focused on the reasons for facing economic conditions and variables with the development of problems and changing the global and local conditions for each country. As the agricultural sector is the most important for absorbing a population and is the basis for filling the food deficit of the countries currently, it is necessary to push the agricultural development rates within the framework of current economic reforms as well as structural adjustments and programs. Policy and financial and monetary programs, which is the definition of the general framework of the economy and the basis of reform reduce the budget deficit by rationalizing government spending

The State establishes the Agricultural Credit Finance Bank, which provides the necessary support and funding to farmers for all types of agricultural crops and all activities related to agriculture, as well as providing all banking services and financing (small and small enterprises) and special loans in rural areas in accordance with the banking systems in the framework of the state policy. The Agricultural Credit Finance Bank is constantly developing its performance, diversifying existing services and introducing new services to meet the requirements of the successive phases, providing

financial and financing services and other activities that suit all rural and urban clients. As well as providing support to the agricultural sector in various fields to reach the sufficiency and serve the national economy to achieve comprehensive development.

This policy deals with the operations of finance and agricultural credit and this policy did not succeed in Iraq because of the lack of seriousness as most of the loans ended up being defaulted and were obtained under difficult circumstances. There was also the problem of political considerations and affiliations in many cases. Monetary policy in Iraq during the nineties was characterized by a decline of the economic and financial resources due to the halt of oil exports, the disruption of oil revenues, and the freezing of funds deposited abroad. There was an emergence of a large deficit in the public budget between economic resources and expenditures that cover the deficit on the basis of the currency. This resulted in an increase in cash circulation and the amount of money, leading to high inflation. In relation to credit policy, the Agricultural Cooperative Bank, which was founded in 1935, is the main source of credit in the country established to finance agricultural projects without focusing on mainly profit as a goal of their activities according to the specific contexts and programs for agricultural plan. In recent years, it introduced many of the private banks involved in the programs of agricultural investment to support agricultural projects but this is still limited in its impact on comprehensive credit policy (AOAD, 1995).

1.4 Agricultural Sector in Iraq

Iraq enjoys a prime location with a relatively moderate climate and good soil fit for cultivation. The diversity of its terrain and the presence of two rivers is also one of the important factors that make Iraq benefit from agriculture and animal husbandry in natural pastures. The agricultural sector comprising of both plant and animal production is important because of its role as the bedrock of the Iraqi economy, providing food for the population, sustaining the almost 30% of the population that live in the rural areas, and employs approximately 20% of the total workforce. It also provides the raw materials that go into the various Iraqi industries as well as providing goods for export. Although the Iraqi economy as previously noted is heavily dependent on crude oil exports, it should be noted that crude oil is an asset that may diminish and lose its value in the future while agriculture will always remain an asset providing a living and employment opportunities for the future generations. Therefore, attention must be paid to this sector by addressing the problems within the sector and to position it to play its role in the development of Iraq economically and socially.

The agricultural sector also influences the political, economic and legislative debates taking place in Iraq and therefore reflects the effectiveness of its contribution to the important variables shaping the Iraqi economy. The percentage contribution of agricultural output is low due to the contribution of the oil sector which is the largest relative to the other sectors of the economy as previously discussed. In what follows below, an overview of some indicators that capture the reality of the agricultural sector and its problems are presented.

Iraq's agricultural sector suffers from problems which has led to low agricultural productivity levels both in terms of individual worker productivity as well as productivity per hectare of agricultural crops. Some of the factors that are responsible for the poor performance of the sector include lack of access to agricultural machinery, fertilizers, improved seeds, and means of combating agricultural epidemics as well as farmers not having the skills to use modern techniques in agricultural production. Thus, there is need for both the provision of these inputs to empower farmers and extension services to train them in the use of modern methods of production (Abood, 2010).

Also, Agricultural production is affected by the state of the farmer, and in particular his standard of living, health and education. In terms of economic and social status, Iraqi farmers are characterized by the prevalence of poverty, ignorance and disease. Although the agrarian reform laws put in place after 1958 were designed to distribute land to farmers and free them from the exploitation of feudal lords, the implementation of the reforms was not accompanied with the application of an integrated production system capable of handling the administrative, financial, and marketing problems in the sector. Further, the use of modern means of agricultural production has continued to be limited and Iraqi farmers lack access to important agricultural inputs, resulting in low production volume and the migration of many farmers to the big cities.

After the events of the war in 2003, there has been no significant development in the agricultural sector and the many problems plaguing the sector have remained and possibly worsened. Several factors are responsible for the deterioration of agricultural production during this period. For example, the shift in economic policy towards the implementation of a more market-oriented economy led to the abolition of protective measures and the opening of the border to foreign trade, the reduction of customs duties and the reversal of the ban on the importation of agricultural products have resulted in subjecting local agricultural production of both crops and livestock to severe competition from imported goods which have the advantage of lower production costs and higher quality. As a result, many of the local agricultural products have disappeared from the Iraqi market and producers of agricultural commodities have been exposed to losses, causing a large number of farmers to stop production.

To support local production, the state through the Ministry of Agriculture has made efforts to provide farmers with inputs in the form of fertilizers, agricultural machines and equipment, and techniques of prevention of epidemics and other agricultural materials imported at cheap prices far below the real cost. The state bears the bulk of the cost to import, as the state buys a large portion of agricultural products at prices higher than the internal support for producers. The Ministry of Agriculture is in an awkward position as a result of the continued demands to support farmers. Despite the increase in Iraq's revenue from oil exports in 2010, the funds allocated to support agricultural production did not exceed 350 million USD annually. Despite attracting very little allocation from the state budget funds, there are efforts and gains made by the Ministry of Agriculture over the past years. In particular, the Ministry of Agriculture has made several efforts such as the attempt to provide loans for small

farmers, the reconstruction campaign, agricultural extension and research, the fight against agricultural pests and other activities. However, these efforts have remained modest and unable to achieve the advancement of the agricultural sector and to address the underlying problems (Hashemi, 2013).

The arable land in Iraq currently used in agriculture ranges from 30-48 million acres of the total arable land area amounting to 770.177 million acres. The Iraqi arable land constitutes approximately 17% of the total land area of Iraq, a good percentage if compared to that of many developing countries. For example, in Egypt arable land constitutes about 6% of the overall total land area. In terms of the exploitation of Iraq's arable land, what is cultivated annually does not exceed 12.406 million acres which indicates that there is about 17.794 million acres of arable land that is not taken advantage of. Thus, there is a broad balance of arable agricultural land that is unused for agricultural development and can be used in the future, especially the ones in the province of the Western desert stretching from Mosul and Basra until the fertile land and contains large amounts of renewable groundwater.

From the discussion presented above, it is obvious that the agricultural sector suffers from several problems and requires government intervention in order to revamp the sector. Also, careful and accurate identification of the causes that led to the dismal performance of the sector and developing effective strategies capable of reversing the negative trend is of utmost importance.

1.5 Livestock and Fish Industry in Iraq

1.5.1 Livestock

Animal production contributes to nearly half of the added value of agricultural production. They provide the necessary food for the population in the form of meat, milk, eggs and also provide the raw materials for the production of textile, leather, footwear and dairy in addition to the export of some of these products. Livestock production in Iraq suffers from low productivity and poor quality of products. The livestock industry in recent years has been subject to theft and widespread smuggling operations to foreign markets leading to losses for producers especially owners of medium-sized and large-sized farms. Also lack of inputs such as feed and inability to control disease outbreak among livestock creates the current deficit in animal production in Iraq. Because local production is not able to meet the needs of the local market or to provide raw materials for export, the country depends on imports to meet the needs of domestic consumers for animal products of all kinds.

The low productivity in this sector can be attributed to the primitive method employed in cattle breeding, the exception being a few farms that have emerged in recent years and that rely on modern techniques of production. The bulk of livestock production and breeding are carried out in the desert and mountainous areas where livestock are raised collectively by large families for the purpose of selling in the markets. The

primary objective of this primitive method of livestock production is not to meet the needs of the market but to satisfy the needs of farming families for milk, dairy products, meat, and eggs. Under this system, the livestock suffer from lack of forage availability, live mostly on grass and wild plants, without adequate protection from the cruelty of nature, and are exposed to various diseases.

In terms of the number of livestock in Iraq, Table 1.2 presents the relevant data obtained from the Ministry of Planning, the Central Bureau of Statistics (NBS), and Department of Agricultural Census comprehensive survey. The total number of livestock decreased from 12, 176 thousand in 1986 to about 12,093 thousand in 2008 at a growth rate of -0.03%. The population of sheep is highest followed by goats and then Cows and buffalo and with only a few number of camels in Iraq. The total number of sheep was 7,722 thousand in 2008, lower than what it was previously in 1986 (8,981 thousand), a decrease of (0.66%). The population of goats fell to 1,475 thousand in 2008 from 1,476 thousand in 1986, representing a decline by 0.003%. From about 1,578 thousand in 1986, the number of Cows increased to 2,552 thousand in 2008, an increase of 2.1%. Similarly, the population of buffalo increased to 286 thousand head in 2008 from 141 thousand head in 1986 which is an increase of 3.1%. Finally, Camels in Iraq constitute only a very small number estimated at 58 thousand head in 2008. Variation in the number of livestock in Iraq is due to several reasons, including the nature of the pasture and the areas where these animals are raised, exposure to diseases that limit their reproduction, exposure to slaughter and increasing smuggling out of the country. In addition, the social and economic conditions in the country have contributed to the noticeable variation.

Table 1.2 : The Number of Livestock by Type in Iraq (000)

Type/Years	1986	2001	2008
Sheep	8981	6009	7722
Goats	1476	736	1475
Cows	1578	1232	2552
Buffaloes	141	118	286
Camels	-	23	58
Total	12176	8118	12093

(Source: Ministry of Planning, the Central Bureau of Statistics (NBS), the annual Statistical Abstract 2012 – 2013)

Despite the importance of livestock production, the sub-sector, like other aspects of the agricultural sector, is characterized by low production at the present time which calls for making intense efforts towards addressing the underlying problems to ensure the development of the livestock industry in Iraq. Some of these efforts could be in the area of supporting local institutions that work in the livestock industry and encouraging the use of modern methods. In addition, the industry could be revamped through the provision of soft loans to farmers as well as encouraging foreign investment and the private sector to invest in the establishment of large production projects based on integration methods in livestock production. For example, efforts

could be made towards the development of veterinary institutions and production of vaccines, medicines and adequate treatment of diseases in order to protect the health of animal and prevent epidemics. Also, good quality breeds of cow could be imported and sold at subsidized prices to farmers

About natural pastures are the sources of feed and grazing livestock in Iraq. It renewable and important element to support and develop the economy wealth. Pasture land area in Iraq amounted to about 32,150 million Hectares estimates released by the Ministry of Agriculture in Iraq during the year 1980, Ministry of Agriculture and Agrarian Reform(1980). It classified according to what Mentioned in the Table 1.3. Natural pasture area of approximately 25.5 thousand acres, which took about 9.59% of the total area of natural pastures in Iraq. In western Iraq, the humid area. Pastoral land experiencing serious degradation is the average estimated 1784 square kilometers, which represents nearly a quarter of the total area of pastures in the area. This caused the decline in livestock numbers, as we will show, while doubled increase absolute numbers of the population during the same period, the rate of growth and compound growth rate of 3.15%. As it reflected lower average per capita total number of animals (the head of the individual) from 0.75 to 0.37 for the year 1986 and 2008. Average per capita meat decreased for the period (1999 -2010) ranged between 2.347 and 5.104 kg / year, and this amounts to a small percentage as recommended by the World Food Program, with an estimated annual per capita animal protein need not less than 12.7 kg, and this, of course, confirms that meat production does not meet domestic demand (Jumaiali and Hussain, 2014).

Table 1.3 : Areas of Natural Pastures in Iraq

Area	Per thousand hectare area	Relative importance %
Mountain land	3250	10.1
Forest	1800	5.6
Planes	6000	18.7
Desert	21100	56.6
Total	32150	100

(Source: Ministry of Agriculture and Agrarian Reform.(1980.) Worksheet General Authority for Natural pastures. Baghdad. April. p40)

Previously explained the reality of livestock and at the present time and requires like any other aspects of agricultural production to make efforts towards addressing the problems and development. Proposals that can be put up for treatment in this area, especially since some of them characterized similarity with what happened put on processors from plant production problems, especially regarding the need to include these sectors support and care procedures. What should be noted in this area is the need to expedite the rehabilitation of large companies and institutions working in the animal production areas depending on modern methods, which were destroyed, theft and declining production as noted above, by providing soft loans and its comprehensiveness support procedures. As well as the trend towards encouraging foreign investment and the private sector towards the establishment of large animal

production projects that rely integration methods in animal and agricultural and industrial production and the use of modern production methods.

1.5.2 Fish and Fisheries

As fish stocks fell, due to the lack of a naval fleet dedicated to fishing, low marsh water, which was a major source to supply the Iraqi market with fish level and it became a fish production based on small amounts that get farmed in ponds and water bodies, and gets caught in the Tigris and Euphrates rivers and their tributaries, which decreased quantities as a result of the scarcity of water in them.

The development of veterinary institutions and processing of vaccines and medicines and treatment of diseases, and the creation of large quarries in order to protect the wealth of fish from entering epidemics, and the establishment of hatcheries fish and sell promotional prices on fish farmers, and work for the re- composition of the fleet fishing in the waters of Gulf.

On available water resources for the development of fisheries in Iraq it is considered one of the outstanding countries as containing a large and diverse sources and nature of water resources. Available water bodies in Iraq, conditions normal area of about 4 million acres and include this space bodies like rivers (the Tigris and Euphrates and their tributaries), reservoirs and lakes (Tharthar, Habbaniyah and Razzazah) and South marsh (the marshes before drying place) as well as irrigation schedules and networks puncture drainage systems and groundwater in addition to marine coasts. Iraq also states marine Situated at the head of the Arabian Gulf and the Iraqi coast extends under the Law of the Sea in 1986 from the Persian Gulf area of 402 km. The national territorial waters, an area of about 900 km² interface Fao city . Territorial waters characterized by a lack of depth where the water does not exceed 15 m depth and exposed to tidal currents that raise and lower the water level in the ability of 2.40 m. This water is characterized by high fertility to the region, which attracts many fish for feeding or breeding purposes and continue some types of fish migration into inland waters uncle through the Shatt al-Arab and marshes (Hussein, 2011).

The reality of farms and fish hatcheries to the private sector the number of fish farms in Iraq has reached 1,609 farm since the early 1970s until 2003. Water college arena has 31,023 acres of which is that produced 534 farm just up to the 2003 estimated the total water area of 15,728 acres and means that more than 50% of these farms are dependent on the work. That the production of farms producing little in comparison with the actual designs because of mismanagement and high production costs and exposure, mostly in recent years for the fatal viral disease were not exist in Iraq before. And it is used in Iraq and one style for fish farming using docks dirt - Intensive breeding closed using intensive diets for breeding fish common carp class basis, and grass carp and silver carp. Baghdad province occupies the city first, followed by the number of farms in the province of Wasit, where together constitute about 69% either

in terms of productive area represents the city of Wasit province first, followed by the province of Babylon then Baghdad (Ministry of Agriculture, 2003).

The provision of basic ingredients for the development of animal production and welfare, such as the development of veterinary institutions and processing of vaccines and medicines and treatment of diseases, the import of the good qualities of cows and sold at subsidized prices to farmers breeds, and the creation of large quarries in order to protect the wealth of animal from entering epidemics, and the establishment of hatcheries fish and sell them at promotional prices the fish farmers, and work for the re-fleet fishing in the Gulf area configuration.

The purpose of the study that Iraq has large numbers of cattle, sheep and goats as well as river fish. Despite the large numbers and diversity of livestock, statistics indicate that meat and meat products occupy an advanced rank in the list of agricultural food commodities imported by Iraq for the period 1985-2013. This is due to the fact that the meat sector in Iraq suffers from many productions, marketing and manufacturing problems, especially among small producers, the most important of which are the low production rates, the backwardness of the manufacturing sector and the marketing systems, and the high percentage of losses. Meat is a staple of food rich in animal protein needed by the human body. The study attempts to identify the problems and obstacles facing the pricing of meat products in order to assist in the development of national policies aimed at developing meat production in Iraq. The focus was on the two beef products as well as fish, which are considered important meat products in the lives of citizens. But Their suffer from high prices and some production problems such as high feed costs.

1.6 Development of Local Productions of Meat

Iraq has large numbers of animals that are not their production that the total populations live with all the requirements. For the piece became the importation of animal products, especially red meat, a food imports, and the red meat contribute the lion's share of daily consumption, is the meat of products that increase consumption per capita of which high rates match or exceed income growth rates of the consumer in Iraq, and despite the low level Food of animal protein for Iraqi consumers, but the levels of meat production is still less than the size of the total consumption in Iraq.

Thus the government has focused its efforts on the development of the poultry industry in the production of white meat (fish and poultry) for the purpose of easing the pressure on the consumption of red meat and the implementation of several livestock development projects. However, meat production is affected by climatic factors which contribute to the deterioration of natural pastures and impact negatively on production. The government provides these pastures for animal feed, and increase pasture area in Iraq by about 32,874 acres, but the pasture was not exploited optimally which led to the non-availability of fodder in quantities that meet with the requirements for the development of livestock production. This led to the importation of large amount of

concentrated feed from other countries and, thus, helped to reverse the negative impact on livestock production. Iraq is among the countries that have sought to develop the livestock industry and made attempt to increase red meat product to the quantity sufficient to meet expected demand. Several states have set up numerous projects for the production and breeding of cattle, sheep and goats, has been the establishment of numerous projects of livestock sector. The following will explain the evolution of domestic production of meat in Iraq during the period of study (1985-2013)

1.6.1 Productions of Beef

Over the period from 1985 to 2013, domestic production of meat in Iraq has undergone dramatic changes. Red meat (Beef) production totaled 90 thousand tons during 1985 and reached its lowest level during the eighties 69 thousand tons in 1988 and returned to raise again that amounted to 95 thousand tons in 1989. With regard to the period of the nineties became the production of red meat is characterized by volatile rise and decline until the lowest level reached during the period of the study amounted to 50 thousand tons in 1998. The reasons for the decline in production during the nineties to the blockade imposed on the country in that period, which caused the decline in the import of feed and veterinary substances crisis production. Then it took a production increase reached 130.5 thousand tons in 2002 after the piece and then rose to its highest level during the period to reach 160.5 thousand tons in 2012. The average of production during the period was 102.99 and the range between the quantities reached 110.50 As shown in Table 1.4. Figure 1.1 shows the productions of Beef in Iraq.

1.6.2 Productions of Fish

At the level of produced quantities of fish meat indicate the data contained in the Table 1.4 ,to the oscillation is clear in the quantities produced from year to year during the period (1985-2013), with total domestic production reached its highest levels in 2012 about 76.9 thousand tons in while the lowest levels during 1991 and 2004 amounted to 18 thousand tons due to the blockade also conditions and also because of not being able to use the Arabian Gulf and the Shatt al-Arab during the war which led to the fishing stops. Then production was 21.6 in 1992 and took to rise a few percent until he reached 37 tons in 1997 and mentions that the reasons for lower production in 1991 and of the accumulated oil spills on fisheries in the Gulf during the Gulf War at the end of 1990 or the beginning of 1991, which led to a decline in fish exported quantities in the vicinity of the region countries, which really reflected on the fish production in Iraq and stopped some fish production projects for a period of not less than three years, which negatively affected the fish contained in Iraq. Then it took the fish production improvement gradually in 1997, then fell in 2001 to about 26 thousand tons and the cause of low production in recent years due to water scarcity suffered by Iraq. Then it continued vacillate until the end of the production period The average of production during the period was 36.43and the range between the quantities reached 49.90. Table 1.4 and Figure 1.1 shows the productions of Fish in Iraq.

In general, meat production in Iraq is characterized by fluctuation in production volumes during the period from 1985 to 2013. As mentioned above, local production of meat is not sufficient to meet the needs of the domestic market for meat which has led Iraq to resort to importation to bridge the supply-demand gap. Accordingly, there is need to employ several measures to address this problem, including government support to farmers to encourage increased domestic production of meat. Indicators descriptive statistics indicate favorable production of red meat on fish.

Table 1.4 : Quantity of Meat Production in Iraq 1985-2013 (000 tons)

Years	Beef	Fish
1985	90	48
1986	96	40
1987	87	20
1988	69	26
1989	95	23
1990	87	31.5
1991	55	18
1992	74.3	21.6
1993	89	24.5
1994	84	25.6
1995	73.1	33.4
1996	60	35.1
1997	52	37
1998	50	27.7
1999	55	30.4
2000	70.2	28.0
2001	65.5	26
2002	130.5	45.5
2003	131.9	21
2004	132	18.4
2005	134.1	34.7
2006	136.3	56.8
2007	138.6	54.4
2008	149.7	47.9
2009	152.3	53
2010	154.9	55.9
2011	157.7	48.8
2012	160.5	67.9
2013	156.35	56.4
Average	102.99	36.43
Max	160.50	67.90
Min	50.00	18.00
Rang	110.50	49.90

(Source: Ministry of Planning, the Central Bureau of Statistics (NBS), the Department of Agricultural statistics, the annual reports of animal products)

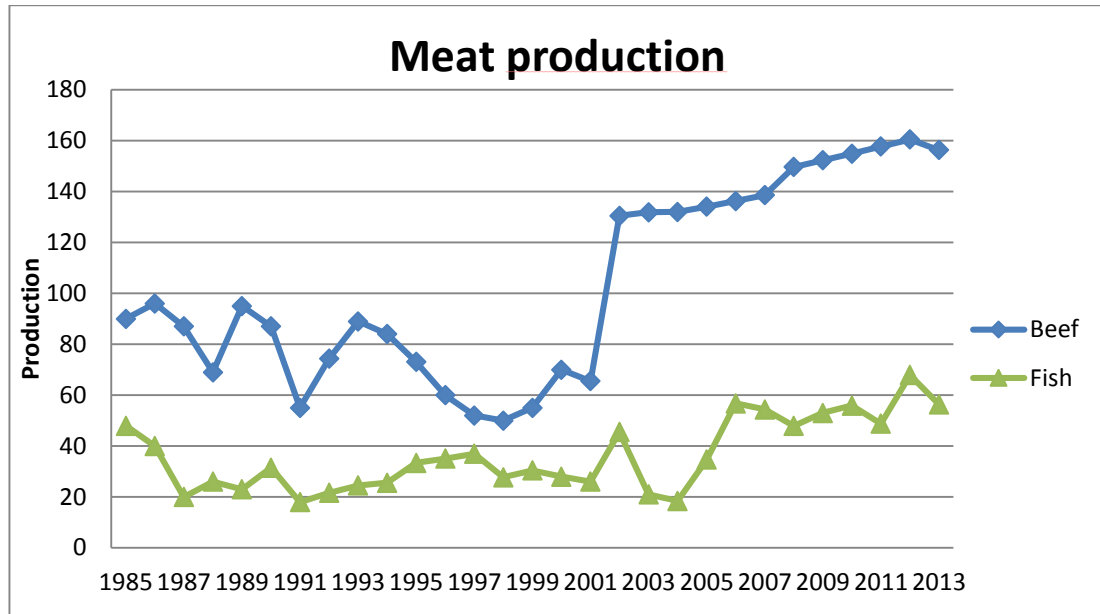


Figure 1.1 : Meat Productions in Iraq (Source: Drew depended on Table 1.4)

1.7 Export and Import of Meat

In terms of imports and exports of meat products during the period of study (1985-2013), the quantity of meat produced in Iraq was not sufficient to meet the need for exports because domestic production could not even meet the needs of domestic consumers. Consequently, Iraq is a net-importer and imports meat products from different countries of the world in the form of frozen meat. Table 1.5 shows the imported quantities of meat during the period of the study.

The quantity of beef imported was high during the eighties and amounted to 134 thousand tons in 1985 and then declined to 81.06 thousand tons at the end of the eighties. During the nineties, the country's imports of red meat declined, but not because of the increased production and living standard but because of the ban imposed on the country during this period. Imports dropped dramatically from the eighties and, then, combined with effect of the low quantity available in the market, resulted in higher prices. The quantity of imported red meat fell to 47.38 thousand tons in 1990 and then continued to decline during the nineties, reaching a level of 0.3 thousand tons in 2000. The decline in trend persisted in subsequent years until 2009 when meat imports increased to 102.6 and then continued in an upward direction until 2012, reaching the highest level of 294.7 thousand tons. However, by 2013, meat import declined to a low level of 0.76 thousand tons. The average of import during the period was 46.59 and the range between the quantities reached 294.66.

With respect to fish, the quantity imported decline over the period 1985 to 2013 and also there was marked fluctuation in import during this period. In Iraq, fish is not consumed on a daily basis by the citizens but limited only to Fridays as well as special

events. Imports of fish were nonexistent during the eighties, except in 1986 when about 1.46 thousand tons of fish was imported. However, imports increased to 79.56 thousand tons in 199, then decreased in subsequent years and continued to fluctuate during the nineties until it fell to 2.32 thousand tons in 1999. The quantity of fish imported increased to 6.44 thousand tons in 2000 and then decreased to zero from 2004-2006. Imports resumed afterwards and in 2008 about 18.19 thousand tons of fish was imported and the quantity of imported continued to increase, reaching a level of 61.61 thousand tons in 2012. Subsequently, fish imports decreased by the end of the period to 45.8 thousand tons in 2013. The average of import during the period was 12.23 and the range between the quantities reached 79.56. Table 1.5 and Figure 1.2 show the trend of imported meat quantities in Iraq during the period of study.



Table 1.5 : Quantity of Meat Import in Iraq 1985-2013 (000 tons)

Years	Beef	Fish
1985	134	0
1986	66.49	1.46
1987	70	0
1988	116.49	0
1989	81.06	0
1990	47.38	79.56
1991	5.63	4.42
1992	9.12	4.35
1993	44.6	7.67
1994	12.33	0.6
1995	11.64	1.59
1996	1.001	5.25
1997	0.6	4.82
1998	0.511	3.25
1999	0.555	2.32
2000	0.3	6.44
2001	0.33	4.7
2002	0.04	0.13
2003	0.5	0.05
2004	0.3	0
2005	0.25	0
2006	0.29	0
2007	0.56	2.1
2008	0.76	18.19
2009	102.6	21.74
2010	175.8	45.83
2011	172.4	32.87
2012	294.7	61.61
2013	0.76	45.8
Average	46.59	12.23
Max	294.70	79.56
Min	0.04	0.00
Rang	294.66	79.56

(Source: - Ministry of Planning, the Central Bureau of Statistics (NBS). Department of foreign trade statistics, the annual bulletins)

-Arab Organization for Agricultural Development, the Arab Agricultural Annual Book of Statistics, various years

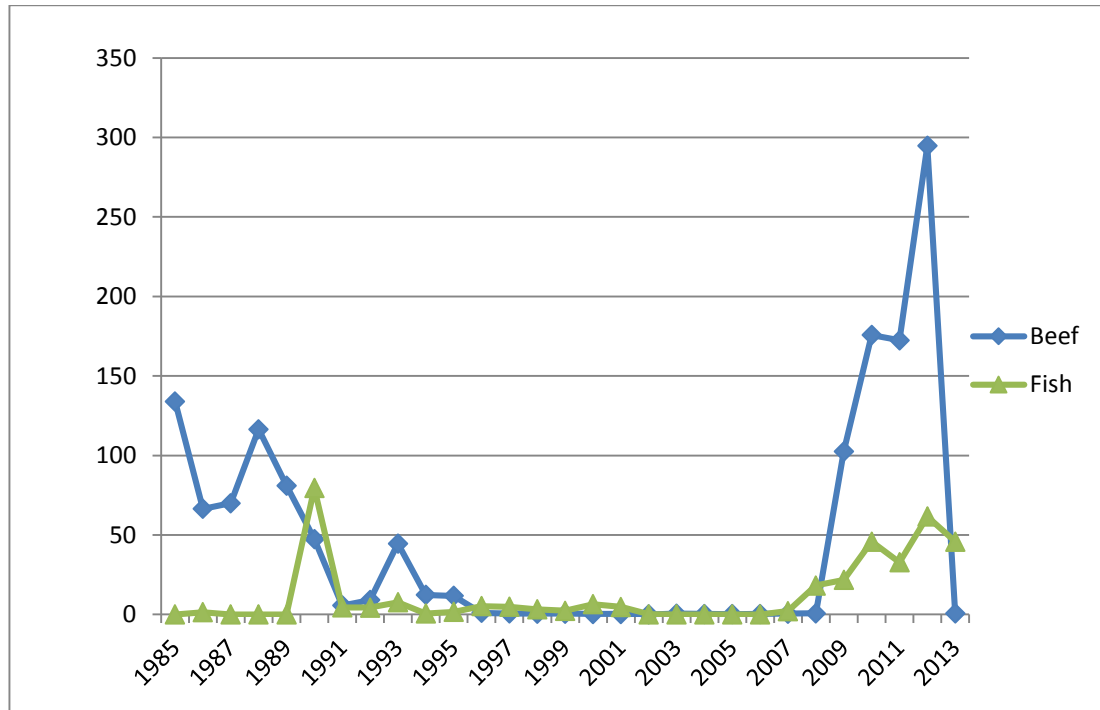


Figure 1.2 : Meat Import in Iraq (Source: Drew depended on Table 1.5)

Finally, the purpose of importing meat into Iraq is to meet the growing domestic demand for different types of meat and the fact that domestic production is not enough for satisfy local demand. This explains the absence of exports of meat products in Iraq. In addition, the total domestic production together with imports represents the total supply available for domestic consumption.

1.8 Prices of Meat

Although meat production in Iraq is a fluctuate, meat prices in Iraq have been witnessing an increasing trend. Table 1.6 shows the evolution of meat prices in Iraq during the period of study. Prices, especially those of red meat, increased significantly during the period under review, exceeding all expectations in recent years. The rise in prices has reduced the purchasing power especially of low-income Iraqi families who are then forced to turn to other alternatives such as imported meat which has been able to compete with what is offered in local meat shops. The most prominent reason attributed to high meat prices in Iraqi, especially red meat prices is the high cost of livestock breeding and lack of support from the government. The lack of pastures, feed and veterinary care must be provided by the government at subsidized prices in order increase production which would, in turn, exert a downward pressure on prices. Also the health control system and its various committees have been unable to monitor the indiscriminate killing of animals leading to an acute shortage of cattle. Low imported red meat prices are commensurate with the purchasing power of especially the poor or low-income Iraqi families and so imported meat has become more popular in the local market. In addition, the lower than expected control by the ministries of trade,

agriculture and livestock on the prices of those meat results in the lack of consumer protection from the exploitation of greedy sellers who manipulate prices (Sabri, 2013).

As captured in Table 1.6 and Figure 1.3, there are several important things to note about the development of meat prices in Iraq during the period of this study. First, prices increased slowly in the eighties and the increase was a few percent. However, the increase in the prices of all meat type was modest in the nineties and then rose significantly after 2003 until the end of the study period. For example, the average price of red meat was 2.9 Dinars/kg, poultry 0.7 Dinars/kg and fish amounted to 3.01 Dinars/ kg in 1985. These prices increased to 77.37, 51.6, and 38.3 Dinars/ kg for red meat, poultry, and fish respectively in 1993. In 1999, there was a significant increase in the prices of red meat, poultry, and fish to 2,414.2, 1,197.1, and 1,468.8 Dinars/kg respectively. Similarly, in 2006 prices increased to 4,365.3, 2,212.2, and 1,973.3 Dinars/kg of red meat, poultry, fish, respectively. Furthermore, in 2013 the prices of red meat, poultry, and fish substantially increased to 14,126, 4,450, and 6,813 Dinars/kg respectively. The growth rates of prices for meat types were close to one another in the eighties and then increased differently for all three meat types after the nineties. There was an increased variation in the growth rate of prices after 2003, which increased the prices of red meat significantly more than that of poultry meat and fish. On the other hand, there was a close movement in the growth rate of fish meat and poultry meat prices. Growth rates of meat prices for the period 1985 to 2013 were 34.02% and 30.50% for red meat and fish respectively.

The increase in prices of meat is due to the reasons earlier noted in addition to the import restriction in the nineties and the deterioration in the value of the Iraqi currency against the dollar and other foreign currencies. In addition, there were political and social issues confronting the country during this period. According to Indicators descriptive statistics in Table 1.6 shown the increase in the prices of red meat above the prices of the other kinds of meat was due to high production costs as discussed earlier in addition to the length of the production cycle. The prices of meat, especially that of red meat, is expected to increase in the future if there is no increase in production which would have negative effect on low-income consumers due to their inability to buy expensive meat. Therefore, there is need to put in place policies to support the prices of meat products as well as support the prices of inputs in order to reduce the high prices.

Table 1.6 : The Local Prices of Meat in Iraq 1985-2013 (ID/ kg)

Years	Beef	Fish
1985	2.9	3.01
1986	3.03	4.2
1987	3.69	3.4
1988	4.1	3.1
1989	5	3.2
1990	6.3	3.4
1991	11.7	6.5
1992	27.4	15.9
1993	77.37	38.3
1994	337	160.1
1995	1196	928
1996	1250	887.3
1997	1909.3	1203.9
1998	2550	1571.7
1999	2414.2	1468.8
2000	2252	1744.3
2001	2835	1962.1
2002	2549.2	2081.1
2003	2545.3	1929
2004	3046.7	1990.7
2005	3646.9	2000.3
2006	4365.3	1973.3
2007	5225.3	2811.9
2008	6254.7	3650.5
2009	9100	4179
2010	12559	5989
2011	13485	6585
2012	13931	7100
2013	14126	6813
growth	34.02%	30.50%
Average	3645.50	1969.31
Max	14126.00	7100.00
Min	2.90	3.01
Rang	14123.10	7096.99

(Source: Ministry of Planning, the Central Bureau of Statistics (NBS) Annual statistics for prices)

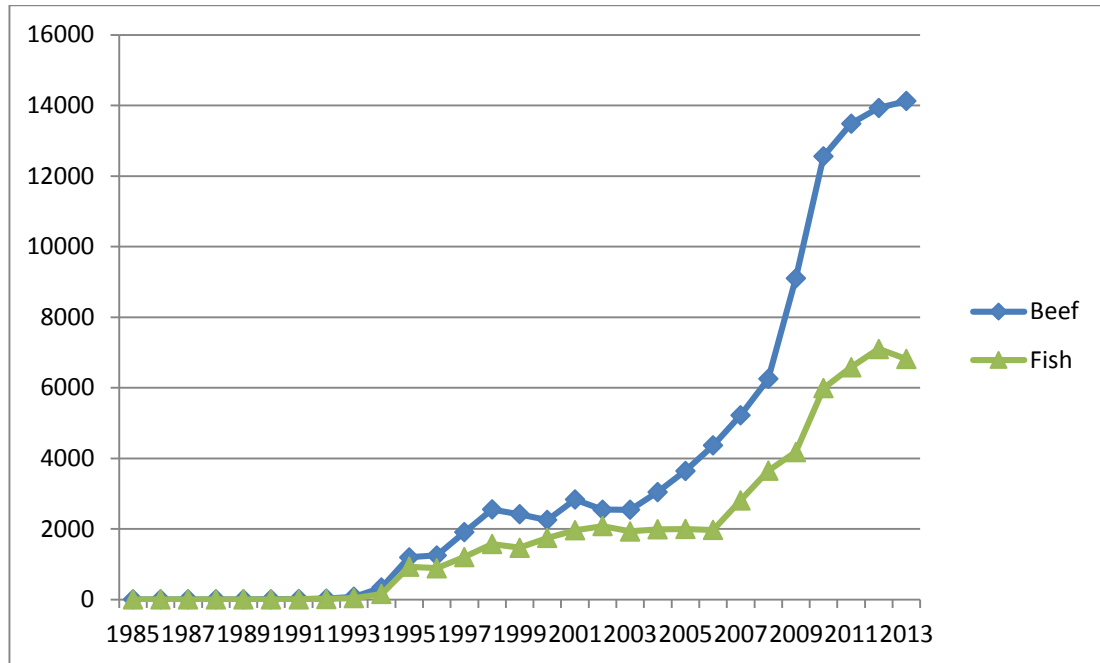


Figure 1.3 : Local Prices of Meat in Iraq (Source: Drew depended on Table 1.4)

1.9 Problem Statement

Productions of meat, especially (beef and fish) considered as great importance to build the human body. Iraq suffers from increasingly the prices of meat products as a result of increased the demand for livestock products. Domestic production of meat is not sufficient to meet the growing domestic demand of meat, forcing the country to rely on import to meet the market need for meat by bridging the supply-demand gap. The meat industry also suffers from increase production costs in addition to the limited use of modern techniques in animal husbandry, hurting so much the level of domestic production. In addition, foreign products imported are more competitive because the prices of imported meat are lower than the prices of domestic products. The private sector imports a large quantity of poor quality meat which is then supplied to the local markets at very low prices compared to the prices of domestic products.

Due to all of these reasons the level of meat production in the country is affected directly which has an influence over the price policy for these products. Also, there are other reasons that indirectly influence the effectiveness of price policy applied to livestock products, including the political situations experienced by the country, the wars that Iraq has been involved in as well as macro-economic conditions related to the depreciation of the value of the local currency in the nineties that have had a significant impact on the increase of domestic prices of meat products in addition to social and cultural conditions. Therefore, stimulating domestic production requires serious efforts by the government and policy-makers by way of designing a price policy that encourages domestic production through the support of the final price of output or the support of the prices of inputs. It given that the government bears the

budgetary burden of price policies, a thorough and accurate evaluation of the two policies must be carried out to determine which policy to choose.

In Iraq some studies point to a significant deterioration in agricultural pricing policy by not pricing all agricultural products, neglecting the pricing of grains, industrial crops and feed, and focusing on fruits and vegetables only without scientific grounds. The efficiency of subsidizing the prices of production inputs adopted since the first half of the 1970s in the positive impact on production. Despite the entire positive, the country has moved towards the policy of subsidizing production prices in addition to supporting the prices of production inputs, especially after 1990, agricultural production and grain prices (Dulaimi,1999). Also Hayali (1997) found a number of considerations that must be taken into account in the price of rice policy in Iraq. The intervention of the government is weak pricing of rice in directing cultivated areas, where the cultivated areas did not respond to the continuing increase in the price of the purchase of crops. The price policy did not stimulate the product while it was in favor of the consumer. This is confirmed by the study of wheat crop (Zobaie, 1995) as well as (Kanaan,1998) Barley crop were not results for the benefit of the producers of those crops, and the policy of prices for the benefit of consumers at the expense of producers.

There is a financing problem through the price policy that large amounts of subsidies provided by the state to farmers for the purpose of subsidizing final product prices have moved from the agricultural sector for speculative purposes in real estate and domestic trade and contributed significantly to domestic inflation rather than directed to real agricultural development and creation in the rural class of wealth holders through. Samarra (1998) studied clearly articulated between the agricultural price policy of the 1970s and the support of production inputs as well as the policy of agricultural prices during the 1980s and 1990s and the subsidization of final product prices. Therefore, the intervention of the state in agricultural price policies from inputs to final product prices has had a number of effects which have led to widespread debate among agricultural economists on the one hand and intervention policy makers on the other, on the utility and benefits of such policies and the extent to which they can do in the future.

As well as the overall economy of reducing the value of local currency in the nineties conditions. For example, the economic impact of subsidy policies for wheat prices measuring these effects using the official exchange rate gives unrealistic and shaded results to the real price of policy makers. This is especially the case in countries where the official exchange rate differs from the exchange rate, which Iraq is one of them (Zobaie, 1995). Therefore, stimulating domestic production requires serious efforts by the government and policy makers to develop a price policy that encourages domestic production by subsidizing production or supporting input prices. This has had a significant impact on the rise in domestic prices of agricultural products, especially meat, which has not had a large share of support as well as social and cultural conditions. Given that the Government bears the burden of the price policy

budget, an accurate and rigorous policy assessment is needed to determine which policy option should be done.

Thus, this study focuses on this line of interest by showing which policy is better for both producers and consumers, as well as to develop a policy that could maximize the welfare of producers and consumers, increase domestic production, reduce over-reliance on imports and reduce the burden on government budget in the long-term.

1.10 Research Questions

The study is trying to answer the following questions:

- 1) Is that the price policy for meat products supporting the producers or consumers?
- 2) How much amount of money spent by the state to support animal products? What is the effect of these amounts to the state treasury?
- 3) How much loss in both sides of the production and consumption of both commodities and, whichever is greater? And the amount of the net loss of society?
- 4) How much surplus both producer and consumer of both commodities? Which one is more for the welfare of both commodities?
- 5) Which of the two policies that follow best support the final product price or production inputs prices?

1.11 Objectives of Study

1.11.1 General Objective

The general objective of this study is to determine the economic impact of policies to support the price of meat (beef and fish) in Iraq through impact on production, consumption and government.

1.11.2 Specific Objectives

The specific objectives of this study are:

- 1) To measure the net nominal protection coefficients (NPC) of beef and fish.
- 2) To identify the impact of multiple affects within the single market model of state intervention in the pricing of meat products.
- 3) To measure each of producers and consumers surplus for both commodities and the comparison between them.
- 4) To calculate the cost of support for the final price as well as the cost of inputs and determine which of the two policies less costly.

1.12 Significance of Study

Price policy is a tool to create an effective system to determine the right price for meat products. The study highlights the impact of the price structure and its components, including the costs, fees and margin, financial subsidies and indirect taxes and market forces in the structure of some economic sectors, as well as its relationship with the exchange rate of the local currency policy. Price reflects the position of the state policy toward farmers, which aims to reduce the volatility in commodity prices and improving farmers' income as well as to reduce production costs through the provision of inputs such as feed, veterinary medicines and water supply.

Therefore, the study comes in order to serve economists working in the agricultural sector planning and agricultural policies, especially on the side of prices of agricultural commodities at the end of the day, and this has a significant impact on increasing domestic production and achieving self-sufficiency in meat products, reducing the volume of imports overall meat industry and development. Price policy is also a tool used to cut consumer prices of meat products in order to encourage local consumption of meat products and reduce the consumption of imported products. Price policy is to achieve several objectives including: 1) to contribute to the national economy through the use of a price system suitable for both producers and consumers; 2) to increase government revenues, the advancement of the process of industrialization through the exploitation of economic resources, increase trade, provide a stimulus incentive for producers and consumer; and 3) to improve economic efficiency.

1.13 Thesis Organization

The thesis has five (5) chapters. Chapter 1 contains the Introduction and includes providing general information about the Iraqi economy (the country of study) also includes the reality of agriculture and its importance and its problems and its impact on the Iraqi economy sector. The study relates to the fact that the meat has dealt with the reality of the production and the meat industry in Iraq and what are the constraints in general. In addition to that the problem of the study and include the objectives and importance of the study for the Iraqi economy.

In chapter 2, a review of the literature is conducted and includes a the reference to all the research and studies and treatises and review articles on the subject of the study, which have a close relationship with the subject of the study, which will be adopted by the references to write a thesis.

Chapter 3 contains the methodology adopted in this study as well as theoretical framework. Also the nature of price policy in general and for animal products in particular. Factors that are affected by the relationship of the price to the rest of other policies in addition to the objectives of agricultural price policy and mechanism of action and policy support agricultural prices by supporting the final product price support or production inputs. Also it includes a clarification of the parameters used for

the analysis of mathematical and data analysis to get to the results. In addition to all the theories that have to do in the interpretation of agricultural price policy.

Chapter 4 is the analysis chapter and discusses, in which the data is to reach results analysis. In order to achieve the objectives of the study and showing how the reasons for those results and their impact on the negative and positive producers and consumers of meat products.

Finally, Chapter 5 contains the conclusion of thesis, which include summarize the findings of the study as well as recommendations and suggestions on the topic studied.



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