

Implication of Water security and its Effect upon food security (Iraq as a study case)

Researcher\ AHMED THABIT ABDULKAREEM

Email: ahmed.th2xxx@gmail.com

Abstract

Water resources represent the basis and the foundation upon which its food security requirements for any country, also it is based in accordance with investment and according to the regulated uses through which it can build abundance and self-sufficiency according to the food issue of and the possibility of meeting the increasing needs and demands as a result of the successive population increases and the rise in living standards and this is what we can see In our research, also focusing on the most important water resources of Iraq and the challenges that stand before them under the local policies, plans and projects of the upstream countries represented by Turkey, and food security, which is the twin of water security, the effect of increasing of food prices and the growing demand for agricultural and food products, especially with the decline Or the reduction in the relative importance of the agricultural sector in the structure of the Iraqi economy, which resulted in a crisis and a food deficit in Iraq with the increase in dependence on external sources to meet the needs of the population's foodstuffs, as well as the decline in the Iraqi per capita share of agricultural output and the increase in challenges that stand in the way of providing food security requirements, especially with the implementation of Iraq for agricultural development plans and strategies and the requirements and plans it requires And programs to complete the food security process in light of the great challenges, the most important of which is water security, which, along with food security, represents one of the basic components of national security.

Introduction

Today, water is of great importance to all countries round the world. Data, according to international reports the coming wars will be ignite for water, also the twentieth century noun as (the century of oil), and the twenty-first century called (the century of water).

Key words

(WS) Water security, (WRI) water resources in Iraq, (WGI) water challenges in Iraq, (FS) food security, (CFSI) components of (FS) in Iraq, (FSGI) (FS) challenges in Iraq, (RAFSI) requirements for achieving (FS) in Iraq.

Research problem

The problem of the research focused from the fact that (WS) is represents the basis of which (FS) stands. There is no (FS) without achieving an appropriate (WS) that can meet the requirements of countries, especially with the increasing population of countries, including Iraq.

Research hypothesis

This study attempts to determine the reflection, and repercussions of (WS) on (FS) , and the requirements to achieve sustainable agricultural development in light of the great challenges and through the policies pursued by the upstream countries of the rivers, including Turkey, towards the downstream countries, including Iraq, and whether Iraq can follow policies and work programs to reduce or mitigate the effects of Turkish water policies towards him?

Research importance

Providing (FS) and self-sufficiency in food is represented in achieving sufficient (WS) and ensuring that security stems from the downstream countries, including Iraq, taking positions and following diplomatic means to achieve that security away from bargains and concessions at the expense of the people, the country, its land and its bounties.

Research Methodology

This study implement the descriptive approach to clarify the Turkish policy and its effects upon Iraqi water reality and the latter's reflection on (FS) directly. Also The analytical approach used, which helps to determine the most important challenges facing Iraq in throughout the attempt of achieve its (FS) under the frame work of (WS) challenges.

Concept of (WS), components, and challenges.

In the present time, water represents an important resource of nature at the international, regional and local levels, and we see this interest in countries with desert and semi-desert climates, such as Iraq.

Water is of great importance in the lives of nations and peoples, as many data and studies confirm that the coming wars will be wars for water, and since the twentieth century has been called the oil century, the twenty-first century is the century of water.

Accompanied With the increase changes of political, social, and economic that the whole the world has undergone in our contemporary history, climatic changes have been added to the imbalance in the distribution of water and its resources and in the distribution of population in the world, and in order to reach what is (WS) in terms of its concept and components, and the challenges and problems that stand in the way of achieving sustainable water growth. Especially for the countries where rivers represent the downstream side, this topic has been dealt with according to the following demands:

Concept of (WS) and its components

Many concepts have been widely used in the world, especially the Arab world, including (WS), (FS) , national security, military security, etc. to indicate the importance of these concepts and issues, and since water represents one of the elements that life cannot continue without it, without water there is no fruit, no life, and no No industry, no agriculture, no sustainable development without this important resource, which is no less important than the oil resource in our current world while (WS) is the preservation of available (WRI)and their best use and non-pollution while rationalizing their use in the field of industry, irrigation and drinking water, while seeking all means to search for valid water sources, (WS) is also seen as (a stable situation of (WRI)that can be reassured, as the supply of water responds to the demand for it (Munther,2001), also some others define it as (sufficiency and guarantee across time and place (Meshkan,2008).

The last definition mean that it is understood as meeting different water needs in quantity and quality with a guarantee The continuation of this sufficiency without effect), So (WS) is a concept based on an absolute concept on a pivotal basis, which is sufficiency and guarantee across time and place, and that it is professional to meet the different water needs in quantity and quality, with the guarantee of the continuity of this sufficiency without influence through the protection and good use of the available water with the development of tools and methods for this use with interest in developing The current water resources, and then comes the search for new resources, whether traditional or non-conventional, and then this concept links (WS) and water scarcity, Thus, it means the state of (WS) for any country and in any particular time period, and it is a function of the water balance of this country and a direct reflection of it. Therefore, the water balance comes in three forms or three cases, First The state of water balance: It is the state when the demand for water is equal to the volume of its supply, Second case is Wateand the last case is (Water deficit situation in which the volume of resources is less than the volume required to meet the necessary needs and thus leads to what is called a water crisis (Salman Taya,2007,p29), so the other face of (ws) is related with other concepts, even the military and political security.(Al Mahjoubi,2006,pp22-23).

With regard to the Tigris and Euphrates rivers, there are observations made by specialists in this case we may find that Concerning the two rivers (Tigris and Euphrates), they pass through the three countries, Turkey, Syria and Iraq, and the source of the Euphrates River is from Turkish territory and it is at the top of the river. Therefore, the ability to control its waters is owned by Turkey. So Iraq depends entirely on the Tigris and Euphrates rivers, and does not have any important sources like them., also the amount of water in the Euphrates River is greater than that of the Tigris River, but it travels for a long distance.

Challenges and problems of water in Iraq political challenge

The Turks see their country as one of the world's richest countries with water. When looking at Turkey's geological map, we see that the plateau of Asia Minor is nothing but a network of hundreds of large, medium and small rivers that irrigate Turkey's lands From an early age, the Turkish decision-maker understood that Turkey's long-term future is based on developing its political role and interests with the countries of the Middle East, and not the countries of the West, which rejected it as a member of the European Union until recently. Therefore, it has worked to build 21 dams on the Euphrates River in order to control its fluent out of boarders (Dalia,2006), so Turkey's water policy is evident in its threat to (WS), through Turkey's deliberate failure to reach a comfortable and clear water agreement on sharing the waters of the Tigris and Euphrates rivers with both Syria and Iraq, in addition to its insistence on continuing to build dams and establish water projects on the two rivers with the aim of developing a region Therefore, Turkey, through its water policy, seeks to achieve a set of goals and dimensions by Politicization of water Where water has been politicized by Turkey and the dispute over it may lead to a clash unless there is a real understanding between the countries involved in the waters of the rivers, and that Turkey's action and its endeavor to politicize water seeks to achieve a set of gains, including Obtaining an active, large and influential role in the region's political arrangements or

the so-called new international system, and its use of water as a pressure card against both Iraq and Syria, in order to weaken its economic capacity.

Turkey works with all its effort to be the food basket for the Arab region, and thus its water policy aims to expand its hegemony over the neighboring countries, especially Iraq and Syria (Haddad,2011,p41).

Water for oil Exchanging

In the last century, and since the beginning of the nineties, the importance of water has become of the importance that oil evokes in the Arab region, and that Turkey considers water as one of the most important sources of strength it possesses, so it has sought, through its water policy, to achieve its economic goals by acquiring the largest amount of The waters of the Tigris and Euphrates rivers and their exchange for Arab oil, in addition to its attempt to realize its dream of making it the food basket in the Arab region, which places it among the ten major food-producing countries in the world (hadad,2008) .

The policy of bartering water for oil receives great attention and space in the statements of Turkish officials in order to obtain Iraqi oil in particular, such as the statement of former Turkish President (Turkut Ozal) to London Radio: that if Iraq does not export oil through Turkish territory, there will be no water for Iraq and that this statement Shows the extent of Turkey's determination to use water to obtain Iraqi oil .

Turkey has expanded its influence to Arab oil through the (Peace Pipes) project, one of whose pipelines extends to reach the Arab Gulf oil countries in order to obtain Arab oil.

In 1997, regarding what was rumored at the time about (a conference was held in Turkey to set a new system regarding the sale of water to other countries), Demirel said: It is not a question of selling water, and even if it was, it would not be from the Tigris and Euphrates (D.Jalal moawath,1992, pp 213-214) .

The proposition of (selling water), which Ozal mentioned for the first time in 1987 within the framework of the (Peace Water) project, later became a project under discussion and financing, and that there are specific international and regional circles that support it, not only for economic reasons, but for strategic reasons, and Turkey and the Zionist entity will be among the biggest beneficiaries of that. The project to make their water alliance the other face of their strategic alliance (Munther, 2016,p16).

Iranian water policy

Iran has a water policy based on the principle of exploiting the waters of border rivers. Among those policies are (Ghadeer, 2002).

A- It cut off the course of the border rivers, for example, cutting off the(Kinkier River) from the (Mandali district), which led to the destruction of about (70) percent of the fruit trees in the area and also caused a shortage of palm production to about (30%) .

B - The Iranian authorities worked to divert the course of the border rivers towards the Iranian interior, such as the Alvand River in 1958, which led to severe damage to the Khanaqin district, as well as the BanawaSuta River and the QaraTou River.

C- The Iranian authorities' construction of storage projects for the purpose of generating electric power and irrigating agricultural lands, which resulted in severe damage to the irrigated lands in Iraq.

D- Iran's resort to reducing the number

Constantly and at its natural rates, and Turkey claims that the goal of constructing its dams is to regulate the flow of waters of the Tigris and Euphrates at a rate ranging between 200-2000 m3/sec for energy demand.

Also, the most dangerous and biggest challenge here is that Turkey, in the event of a crisis, can, according to the storage capacity that it will have after completing the dams, cause damage to both Syria and Iraq, and thus cause floods in the river by launching very high expenses that exceed the absorption of its basin.

The problem of influencing the management of water resources.

The last century, specifically the nineties, witnessed a major shift in the Iraqi orientation towards managing water resources, as this trend was translated into the establishment of a number of irrigation projects, in addition to the restoration and maintenance of old projects, in addition to reducing water losses ... etc., in order to achieve the best possible investment for water Tigris and Euphrates.

In order to secure Iraq's water needs, it has built many dams and water projects, including the Hindiya, Ramadi, and Qadisiyah dams, the Habbaniyah project, the Tharthar Canal, and the Mosul Dam, which supply the Euphrates with about (6) billion m3 of water from the Tigris River after its level decreased in the Chihud season.

Problems of an external nature

At the external level, Turkey did not respond to the objections of Iraq and Syria to the implementation of its water projects, despite the presence of a number of protocols, agreements and texts signed since 1920 until the first half of the nineties of the last century, all of which confirm that if the issue is presented to international forums, it must be Turkey recognition of the international nature of the two rivers and the distribution of their waters among the three countries (Iraq - Turkey - Syria). In addition, no riparian country has the right to invest common resources in a way that harms others, as Turkey rejected this agreement, which was approved by the United Nations General Assembly on 2th, of may1997 (Jamal dawod salman,2002, pp 6-7).

Turkey continued to adhere to the right of absolute sovereignty over the waters of the Tigris and Euphrates that run in its territory, and that the water that was passed to Syria and Iraq represents a sacrifice from it and not a duty, and thus it rejects the principle of equitable division of water distribution and insists on the principle of optimal use of water.

Climate change.

Where climate changes represent a major threat facing the future of water in Iraq, as the effects of these changes have appeared clearly since the beginning of the last decade of the twentieth century, and scientific studies indicate that climatic changes and the effects they can leave will be the biggest challenge that humanity will face in the twenty-first century. Twenty and that the effects of changes on the Euphrates and Tigris feeding basin area will lead to a decrease in rainfall, especially after 1999, as drought years were repeated in this period more than in the years preceding that year. The amount of rain reached (769) mm during the period (1970-1998), that amount decreased during the period (1999-2007) to reach (604) mm, and that this decline in the amount of rain will increase in the future, according to reports issued by a relevant United Nations governmental body. on Climate Change (IPCC).

Population growth

Population growth represents a real challenge to (WS) in Iraq, as the population increases, the per capita share of water decreases. In 2014, the population increased to about (36) million, and the available resources reached (41.20) billion m³, while the water need reached (57.84 billion m³, which caused a decrease in the Iraqi per capita share of water and recorded a water deficit estimated at 15.27 billion m³, especially after the completion of Turkish projects, in addition to the increase in the need for food and the lack of food self-sufficiency, which increases the tension between countries. Expectations indicate an increase in the population of Iraq in 2025 to (48) million people, and consequently a decrease in the per capita share of water, and this is reflected in the poor quality of water and the increase in the proportion of salts and solids (**Thaer Mahmood & others,2018**) .

Concept of (FS)

Food security is a basic component because of its challenges in Iraq. Food which is of great importance to all living things. From a biological point of view, food is the basis that supplies the body with the energy it needs to perform its tasks, and that the body derives its composition and strength from food. It also has great economic importance for many countries, but our modern age has been characterized by international conflicts and pressures that have led to tensions and wars. On the resources that produce commodities, because of which communities faced difficult living and food conditions, which often led to famines and became a history of their own. In order to understand (FS) and its components and the most important challenges facing it, this topic was addressed through the following demands:

The first requirement / the concept of (FS) - its basic components in Iraq.

Many countries of the world and the countries of the Arab world after the mid-seventies faced several complex economic problems, and at the forefront of these problems is food insecurity in several forms, which resulted in shortages and deficits in the average per capita share of food, and in order to reach what is (FS) and the most important its basic components at the level of Iraq were addressed as follows:

concept of (FS)

The United Nations Food and Agriculture Organization (FAO) has interpreted the concept of (FS) , which refers to the possibility of community members at all times to obtain sufficient food required for their activity and health (**Salem Tawfiq,1999,pp5-17**), This definition includes a set of multiple variables, foremost of which is the supremacy of the productive efficiency of food, in addition to the availability of support means and institutional systems for agricultural production.

(FS) is also defined as (the ability of all people, at all times, to obtain sufficient food that guarantees them an active healthy life, Therefore, it is represented in providing food in quantity and quality, So The Tigris River is the most important source of water in Iraq, because of its huge annual revenue, where more than (33.5)% of its annual revenue comes from inside Iraq, and this can be seen

from Table No. (1), which formed the largest amount in 2019 from the Tigris River. The Tigris, which amounted to about (76,52) billion / m³

Table (1) annual resources 2016-2020
Million cubic ml

total	Euphrates	tigres	River
			Water year
54,75	15,15	39,60	2016
40,53	13,16	27,37	2017
32,96	9,56	23,40	2018
93,47	16,95	76,52	2019
49,59	20,20	29,39	2020

cosit of Iraq , annual report of water resources 2017-2019-2020

These water quantities are threatened by global climatic conditions that are witnessing major and successive changes, while the external sources that make up the Tigris River witness two threats, the first is natural climatic and the other political geopolitical, as it is linked to the conditions and political, economic and developmental variables of other countries, and with regard to the Euphrates River, as its annual revenues have declined and become fluctuating and that Very significantly due to the climatic conditions, in addition to the Turkish projects implemented within the (GAP) project and therefore the quantities of water for the Euphrates River are subject to decreasing due to natural and political reasons related to the water policies of neighboring countries (**Ibrahim Harbi, 2016, p205**) .

Iraq's consumption of these water revenues amounted to approximately (53) billion / m³, of which (34) billion / m³ in the Tigris River basin and an amount of (19) billion / m³ in the Euphrates River basin for all different purposes of the country, with the exception of losses from this water as a result of Penetration into the soil and evaporation 2 knowing that the water revenues of the Euphrates River come from outside Iraq and (68%) of the water revenues of the Tigris River come from outside the country as well, and this shows the extent to which Iraq's water revenues are subject to these rivers to the will and interests of multiple countries

Rain water

It is the second source of water in Iraq, which is mostly used for irrigation purposes, especially in the northern regions, where it is the main nutrient for the surface runoff. Snow falls are confined to the northern region of the country, as the total average rainfall in Iraq is (99,9) mm annually. In all parts of Iraq, the area of arable lands in Iraq has reached 23 million acres, or 49.8 percent of the total area of arable lands in Iraq.

In addition, a large amount of this rainwater is exploited in other fields, including filling dams and reservoirs, or it can be an additive factor to supply the surface water of the Tigris and Euphrates rivers when it falls into the tributaries of these rivers or directly into the rivers, or it can be wasted and left unused.

Ground water

It represents the third source of agricultural irrigation operations in Iraq, as it constitutes an alternative to surface water due to the unavailability of surface water in some areas that constitute a large area of (60%) of the total area of Iraq (Basim& others,1998).

The amount of groundwater available for use in Iraq is estimated at about (2) billion / m³ annually, while the amount used is estimated at about 1 billion m³ / year and for various purposes 5 km (Munther, 2001,p178). The renewable reserve of groundwater in Iraq is estimated at (3.5) billion / m³, of which (930) million / m³ is in the western desert region, which shows that the exploitation of groundwater in Iraq is still limited so that it does not exceed what is used of this water in the northern and central regions at a rate ranging between (20-25%) and in the Western Desert (0,2) % of the available groundwater in the country.

Table (2) main rivers &branches which feed Iraq

provinces	location	Source	branches	Main rivers
Duhok neneva saladeen Baghdad omara	Northern feshkhaboor And qurna south	Turkey and iran	khabor Small zab- Large zab	Tigres

			-othaim-dyala	
Anbar-babylon-najaf-kerbela-theqar-qurna	Nord-west Anbar-waset-qurna	Foratso and muradso In side turkey And other inside Syria	No branches Inside iraq	Euphrates

Cosit of Iraq, annual water resources report,2020,p22.

Human resources

Human resources constitute an important factor of great importance through harnessing and integrating them into the process of sustainable economic development for any country, as the degree of investment, harnessing and converting natural resources into important resources depends on the ability of this worker and his creative energy (**munther,1980,p24**).

The effective and important human resources in society are of working age and are able to do it, as the determination of the working age varies from one country to another, and in Iraq, the age is between (15-59) years as an active and active human force.

The population of Iraq in 1987 reached about (16,335) million, it rose to (27,963) million in 2005, then rose in 2015 to reach (35,212) million, then rose to reach in 2020 to reach (40,150) million It is expected that it will reach (45,520) million people in the year 2025, and it is also expected that it will reach in the year 2030 the limits of (51,211) million persons, and Table No. (3) shows the population of Iraq for the period (1987-2030).

**Table (3) population of Iraq for the period
(different years from1987 to 2009)**

2009	2008	2007	2005	2000	1987	Years
31,508	30,581	29,681	27,963	24,086	16,336	population
2030	2025	2022	2020	2018	2015	Years
51,211	45,520	42,248	40,150	38,124	35,212	population

Cosit of Iraq, Annual Statistical Collection, Different Years, Population report .

Table No. (3) shows the increases that occurred during the mentioned period. Some statistics indicate that Iraq possesses a huge and important wealth of manpower that can be directed to all agricultural and industrial economic sectors. % of the total workforce in the country, which amounted to (6098) thousand people in 2002, and this workforce in the agricultural sector is one of the basic components upon which the activity of the agricultural sector is based.1

Climate

The diversity of Iraq's climate and the variation in its temperatures from one season to another and from one region to another, led to the diversity in its agricultural crops, depending on the nature of the climate and the main regions of Iraq. While the northern region specializes in the cultivation of some grains and vegetables (**Saeed,1975**).

challenges facing (FS) in Iraq

For most countries in the world facing the problem of (FS) , there are several challenges and problems they face in order to provide the simplest elements of (FS), Arab agriculture, including Iraq, will face as a result of the policies pursued by the upstream countries, for example, Turkey and Iran, which can greatly affect the resources of the Arab countries, including Iraq, which leads to targeting and achieving harm to Arab national security and a negative impact on agricultural development programs in Iraq, which is working hard to achieve security The national food supply and agricultural sufficiency from agriculture, as the cultivated areas will be reduced to about half, which is reflected in a reduction in the quantities of agricultural production of the main food crops (**megthab,1989,p20**) .

The Joint Technical Committee between Iraq and Turkey held its first meeting at the end of April of 2007, which is the first meeting since 1989 to discuss water issues between the two parties, especially the (Ilisu dam) project whose effects are very large on Iraq, as the quantities of water that are received Through the Tigris, it is greatly affected, as it controls the determination of Iraq's share of water and the deterioration of its quality, and the (Ilisu) dam project on the Tigris basin represents one of the most dangerous water projects for Turkey on Iraq, because it works to reduce the level of the Tigris River from (20) billion m3 / year to (9) Billions of m3 / year, which represents a great danger threatening the future of Iraq in the agricultural aspect in the first place, since its agricultural production and the immunity of its (FS) depend largely on land and water resources, which secure the solid agricultural base in it, whether in the present or the future. In addition, this project is working to convert nearly

three million acres of agricultural land in central and southern Iraq into part of the desert, which leads to reducing the area of agricultural land in Iraq to about 33 percent only.

Requirements for achieving (FS) in Iraq focus view upon the challenges of (WS)

(FS) poses a real challenge to the available water resources, At the present time, there are still more than 850 million people suffering from malnutrition. What makes matters worse is the large and successive increases in the expected population numbers, estimated at 3 billion people by 2025, as well. To the possibilities of changing dietary patterns and the trend towards consuming red meat, which are very water-consuming products, as a result of improved income levels, which prompted us to ask an important question about the amount of additional food required to be available, as the answer to this question and according to the estimates of the International Institute for Water Management in the Agricultural Sector It is that during the next fifty years the demand for food and animal feed will double (UN,2007,p13) . so The previous question urges us to ask a more important question about the additional water required.

Additional improvements in water productivity, and without major shifts in production models, the required amount of water will increase at a rate from (70%) to (90%) by 2050(UN,2007,p14), and in order to reach the requirements for achieving (FS) in Iraq, the requirement has been addressed according to the following paragraphs:

First: Dimensions of the relationship between (WRI)and (FS) .

The relationship between water and (FS) is a very complex issue that achieves several dimensions of (FS) and knowledge by the World Organization (FAO), according to the following(Noor, 2015,p71):

Water first is a factor and key to the issue of abundance, meaning that the supply for production and import must respond to demand. In fact, water is a basic resource for agricultural production, including animals and hydroponics. Irrigation can participate in the intensification and diversification of food, and there are also large margins for progress for Better use of rainwater in agricultural activities, or more precisely for the benefit of family farming, better access to water and the planned and sustainable management of water resources, including the division of water between different uses. So a Good water management improves physical and economic access to adequate and nutritious nutrition, and in fact can allow poor managers to produce more for better nutrition, and enables them to improve their incomes, create jobs for work and improve the standard of living, and also works by reducing the costs of exploitation or the production of environmental services that benefit from it. Users who are below or in the whole community.

relationship between (FS) and water represents a relationship of stability, as water is in fact a poorly divided resource (in time and space), as many societies and economies are today victims of the problems of increasing water shortage, desertification, and floods, where irrigation can lead to an increase income and to achieve great flexibility in weather changes , also With regard to the relationship between water and (FS) , there is a bet with regard to nutrition and health that everyone has access to safe drinking water and to the necessary and basic disinfection and hygiene, as the poor quality of water and the absence of disinfection are among the main reasons for the formation of diseases through water.

Exposure to dangerous concentrations of chemical pollutants in drinking water or agricultural water is a factor that affects the health of peoples, and the negative impact on health has an important impact on the productivity of agricultural work.

Therefore, the role of water in (FS) has multiple faces and forms, its applications and consequences for health and food together, as well as its consequences for agricultural production, food cultivation, incomes, access to nutrition and stability.

Requirements for achieving (FS) and (WS) in Iraq

There are several points that should be met, even at a minimum, which from our perspective is a guiding and effective work map in order to reach the fulfillment of (FS) &(WS) requirements in Iraq, including:

- Improving and developing water resources and directing their use in the right directions and programs with binding agreements with the upstream countries and the countries that are considered the path of the rivers in order to reach the appropriate and sufficient quantities of water from the Tigris and Euphrates rivers and work on building and expanding dams to guarantee the water reaching Iraq and to ensure a strategic storage that can be used at times Crises and periods of drought and work to improve and cultivate good quality crops that increase the abundance of crops in the cultivated area according to the principle of investment in seeds and agricultural crops.

- Paying attention to price policies, as they work to support the price of the national product and make it close to world prices in order to motivate farmers and farmers to invest while increasing

agricultural production, especially strategic crops that are at the core of food security for the individual (Thaer, 2005,p94).

Paying attention to the investment policy, by giving a high priority in the country's investment policy to the agricultural sector represented by the plant and animal side, while securing it by providing the necessary water with a fair distribution of the investment program for the agricultural sector and according to the governorates in a manner that achieves the comparative advantage of each governorate and its agricultural capabilities. Investment is done by supporting the private sector to invest in the agricultural sector by encouraging the support of the local and foreign private sector to invest in plant and animal production projects, as well as supporting and encouraging investment in promising areas in the desert (Mahdi, 2004, p4) .

- Working on developing the production of fruits and palms by restoring Iraq to its position in the production of dates and the rest of the fruit trees, and working on the development of an integrated program based on the prevention and control of plant diseases.

- Work on developing fisheries wealth through developing marshes with the expansion of establishing stations for fingerling production in order to equip fish breeding farms and raise their surplus in lakes, rivers and marshes with the expansion of the feed industry.

- Working on developing livestock, especially poultry farms and cattle and sheep breeding stations, and adopting the method of different companies because private capital is not daring to enter into investments on a large scale and contains the element of risk.

- Work to activate the role of Arab and regional agricultural development.

Coordinating agricultural policies in the Arab countries while accelerating the crystallization of the joint Arab agricultural policy in the medium term, considering it one of the main strategic objectives of sustainable Arab agricultural development .

The government's endeavor to enter into large investments in the infrastructure of the agricultural sector, which includes roads, bridges, electricity, sewage, etc., in addition to rehabilitating irrigation and drainage projects and organizing water resources with the maintenance of agricultural soil as it represents the cornerstone in order to raise the productivity of one acre of agricultural land.

- Increased interest in agricultural research. Increased interest in research and studies prepared by researchers contributed to bringing about development and fundamental changes in the agricultural development map, as the results of many of those studies indicated that the return of agricultural development research could range between (30-60%).

- Working on rural development and establishing infrastructure projects.

- Through the development of the countryside, which is done by developing the countryside and giving it seriousness and attention, like the city, and providing the necessary and necessary services to farmers while providing indicative awareness among farmers through various media.

- Working to provide strategic food stocks, through the adoption of the Ministries of Agriculture and Trade to provide strategic stocks dedicated to basic foodstuffs, whose dependence is on local production and imports to face emergency crises.

Working on knowledge in the field of producing hybrid plant seeds and animal breeds with high productivity and resistance to all pests and diseases and advanced agricultural mechanization, with the provision of scientific courses and research for those interested and access to international exhibitions specialized in agricultural issues.

Conclusions

1. Water issue is one of the core issues that cannot be waived because it concerns the fate of entire peoples and countries. Governments should pay attention to it and give it great importance, especially what we notice that countries such as Turkey are building dams and reservoir projects on the Tigris and Euphrates rivers, including the Al-Ghab Project (GAP) and the like. of the impact on the downstream countries.
2. procedures Weakness of Iraqi government, especially those related to its financial rights in accordance with international agreements, with the weakness of the Iraqi negotiator in obtaining benefits and in concluding long-term agreements that are binding on the part of the upstream state.
3. water policies weakness of and water planning in Iraq represented by the Ministry of Water Resources in finding and formulating solutions to the water problem in Iraq.
4. expanding of global food problem which affects strongly starting to become clear day by day, and Iraq is not immune from that problem, but Iraq has components and potentials if it is exploited and programmed in a planned and correct manner that can achieve self-sufficiency.
5. a strong relationship between water and food and what one of these two factors can cause on the other, in Iraq, one of the biggest problems that Iraq may face in its food security in the near and far future are the natural problems represented by the lack of water and the deterioration of its quality due to waves Drought that hit the Middle East regions.

6. A clear weakness in the efficiency of irrigation water uses, as a result of wastage in use, increased salinity, desertification, poor technical level, mismanagement, corruption and a deterioration in the quality of agricultural products compared to their counterparts in other countries.
7. Also there is lack of interest in livestock through the poor provision of their requirements such as feed, medicines and medical care.
8. Government policies did not pay much attention to the agricultural sector and its plan drawn up in the national development plans, which is reflected in the weakness, also shortcomings which is seen in Iraq throughout achieving food security requirements.

Resources:

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