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A VISION TO DEVELOP A FRAMEWORK FOR THE IMPLEMENTATION OF THE GREEN ECONOMY CASE STUDY: FRUIT FARMS IN THE BELAGRAA VILLAGE OF AL JABAL AL AKHDAR – LIBYA

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Abstract

This study aims to design a theoretical framework and a practical approach to establish a green agricultural economy project of fruit farms in the Belagraa village of Al Jabal Al Akhdar - Libya, under shared supervision of the private and public sectors. The study can be generalized to most of the agricultural areas in Libya. The researcher has integrated four basic topics that are necessary to implement the green economy, first: economic and social factors. Second two environmental issues are resource efficiency and energy use; third: biodiversity protection. Forth: ecosystems. This study relied on descriptive and quantitative analysis, using regression models, estimating the annual growth rate. The results showed from 1970-2017 that the growth production rate and productivity reached 5% and 6.6%, respectively, while the annual growth rate of the area was not significant and at a decreasing rate; about 1.1%. Many difficulties and challenges facing fruit producers, meet the implementation of the green economy as follows: there is no connection between farmers and the state in terms of technical, material, and marketing support of local production. Organic agriculture was found only in two small farms. The researcher designed a practical framework for the partnership between the private and public sectors; to achieve the principles of the green economy in the agricultural economy projects, which are in line with the local context.

Keywords: Green economy, agriculture, public sector, private sector, Libya

1.0 INTRODUCTION

The frequency of the term green economy coincided with the increase and exacerbation of global economic, environmental, and social crises. As the green economy is one of the most important pillars of sustainable development; especially in the agricultural sector, which is a basic sector that tends to be resource-intensive and diversified and can have harmful effects on the environment in the absence of sustainable solutions for its investment methods. The consolidation of the principles of a green economy will play a largely in reducing environmental risks and the depletion of natural resources, which threatens the ecological balance and the access of societies to a safe environment, and enhances human well-being. The process of transition to a green economy is a process that requires effort [1]) and continuity. The World Bank defines [2] inclusive green growth as environmentally sustainable economic growth; that is, it is "effective, clean and flexible - effective in its use of natural resources, clean in terms of reducing pollution and environmental impacts, and flexibility in terms of interpreting natural hazards, the role of environmental management and natural capital in preventing physical disasters."

The United Nations Department of Social and Economic Affairs reviewed (UNDESA [3]) green economy principles; as follows that the green economy:

1) It is a way to achieve sustainable development. 2) It must create decent work and green jobs. 3) Efficient use of resources and energy.

4) Respects land limits, ecological limits, ecological limits, or scarcity. 5) It is used in the integrated decision-making process.

6) Measures progress beyond GDP using appropriate indicators/metrics. 7) Just and equitable - between and across countries and between generations. 8.) Protects biodiversity and ecosystems. 9.) Provides poverty reduction, well-being, livelihoods, social protection, and access to basic services. 10) Improves governance and rule of law; that is: it is comprehensive; democratic.

participatory; transparent official; and stable. 11) Understand the external factors.

In this research, the focus will be on how to harmonize one of the areas of the agricultural sector in Libya, which is fruit production, with the principles of the green economy. Small-scale farming, in general, is an important livelihood activity, and about 2.5 billion people in the world derive their livelihood directly from small-scale farming. Agriculture and animal husbandry were the pillars of the Libyan economy. More than 80% of the Libyan people worked in agriculture and animal husbandry, according to a report prepared by the United Nations mission to Libya in 1952 [4]. Metz confirmed that before 1958, agriculture contributed 30% of the GDP, provides raw materials for the industrial sector, trade, and exports. However, since the oil industry has replaced agriculture and other non-oil sectors. Libya has become a single commodity economy that is not diversified and the government has failed to create a strategy to manage for development, and oil revenues have undermined state institutions, making Libya's prospects bleak. [5]

For example, the Libyan government spent huge sums on development plans, especially on the agricultural sector, and adopted strategies that focused on achieving self-sufficiency, achieving food security, and reducing the role of oil. These strategies were applied from 1969 to 2011; however, the results were disappointing, with neither productivity nor food security, with no food self-sufficiency [6].

The collapse of oil prices in many years and different periods, such as what happened in 2014, the fluctuation of supply and demand for oil, the difficulty of forecasting oil prices, and the emergence of major countries that began extracting and selling oil extensively, which affected demand and global oil prices. All of these factors necessitate the Libyan' regime to carry out radical economic reforms aimed at economic diversification. Shifting from the rentier (distributive) model that depends on not accounting to a production model.

The search for solutions to economic problems highlights the importance of economic diversification and the trend towards traded productive sectors. The most important of which are the agricultural sector, the marine wealth sector ,the manufacturing industries, the tourism sector, and the services sector.

To secure the economy from shocks; the policy should stimulate tradable sectors to allow for the possibility of dynamic learning and self-discovery. In addition, the ability of one sector to open the way for other sectors requires that the motives for diversification be clear because policies will depend on these motives, not only because they want to diversify away from oil What is the purpose of diversification?. In countries that depend solely on the extraction of primary commodities, it is very difficult to compete with Asian countries, which are labor-intensive and have economies of scale. African countries are very rich and very diverse in their natural resource bases. Thus, at this time staying close to these resources initially is an important way to diversify its economies by doing linked industries that create forward and creative links that stimulate the development process, and help employment. To go in that direction depends on where you are, what you can do." [7] .At the moment ;Libya is limited in the ability to compete through sectors that have nothing to do with resources, thus it is better to stay close to sectors that offer a comparative advantage and production, domestic consumption, and exports from available resources .To achieve economic diversification in line with sustainable development. There is no room for excluding the private sector because the public sector alone cannot achieve sustainable development, and this is confirmed by the experiences of developed countries .

In this research, the focus will be on the agricultural sector to take advantage of the available resources ,and the production of apple fruit is chosen . Table 1, below shows some indicators used to assess apple farms.

Table 1, The evolution of the area, productivity, and production of the apple crop in Libya during the period (1970-2017).

Year	Area in thousand hectares	Production in thousand tons	Productivity
1970	0.50	1.41	2.82
1971	0.50	2.42	4.84
1972	0.52	1.36	3.13
1973	0.69	2.33	3.38
1974	0.39	1.10	2.82
1975	0.75	1.77	2.36
1976	0.79	2.10	2.66
1977	0.89	2.64	2.97
1978	0.85	2.12	2.49
1979	0.92	2.76	3.00
1980	0.89	7.82	8.79
1981	0.99	7.83	7.91
1982	1.05	7.00	6.67
1983	1.09	7.20	6.61
1984	1.15	7.00	6.09
1985	1.19	8.00	6.72
1986	1.24	8.00	6.45
1987	1.40	7.70	5.50
1988	1.42	6.00	4.23
1989	1.56	8.50	5.45
1990	0.85	8.60	10.12
1991	0.85	9.00	10.12
1992	0.85	9.20	10.59
1993	0.85	9.40	10.82
1994	1.60	20.00	11.06
1995	2.40	31.00	12.50
1996	3.50	42.00	12.92

1997	3.40	39.00	12.00
1998	3.40	40.00	11.47
1999	2.60	31.91	11.76
2000	0.40	4.50	12.27
2001	0.40	5.00	11.25
2002	0.40	20.00	12.50
2003	0.77	20.00	50.00
2004	0.50	20.00	25.97
2005	0.50	20.00	25.97
2006	0.50	20.00	25.97
2007	0.50	20.00	25.97
2008	0.50	20.00	12.92
2009	0.52	20.42	12.00
2010	0.55	22.00	11.47
2011	0.55	19.90	11.76
2012	0.58	20.50	12.27
2013	0.58	20.50	25.97
2014	0.42	17.46	40.84
2015	0.39	21.37	40.00
2016	0.38	21.48	36.18
2017	0.35	15.11	35.34
Average	1.00	13.82	35.34

Source: Agricultural Statistics Yearbook, Arab Organization for Agricultural Development, Khartoum, miscellaneous issues

The cultivated area of fruit apples in Libya is varied from year to year and this affects the quantities produced and productivity, in a previous study the average annual area of thousand hectares 1970-2004 and the annual production average was the apple in Libya about 10 t / ha during 1970-2004. and the annual production average was the apple in Libya about 10 t / ha during 1970-2004. [8]. From 1970 to 2017, (see table 1) the average cultivated area of apples was (1000) hectares, the average production of apple trees was 13.82 thousand tons, and the average productivity per hectare was 16.83 tons.

Table 2 illustrate the annual growth rate by estimating the growth function and productivity of apple cultivation in the same period 1970 2017. as shown in table 2; there are three equations, the growth rate of production is seen to a significance level of 1% with a decrease rate of about 1.1% during the study period. No. (1) is statistically significant during the apple harvest survey period, the growth rate increases by about 5%, and the coefficient of determination are due to factors that affect about 66% of changes in apple yield. It is shown as equation (2). Apple harvest productivity during the same period is statistically significant, but growth rates have increased to about, 6.6%, and the coefficient of determination is about 90% of changes in apple yield; is showing. As shown in equations (3)

Table .2, Growth rate for the planted area, production, and productivity of the apple farms (1970-2017):

Variable	Equation	F	r^2	growth rate %
planted area thousand/ hectare	$\hat{Y} = 0.60 + e^{0.011X}$	27.3	0.06	*(1.1)
production thousand tons	$\hat{Y} = 0.82 + e^{0.05X}$	88.5	0.66	5
productivity tons / hectare	$\hat{Y} = 0.80 + e^{0.065X}$	421.7	0.90	6.5

Source: Calculated from Table 1.

2.0 : Study area

The research was conducted in the village of Belgraa, which is located in the Green Mountain, about 5 km west of the city of Al-Bayda. Average rainfall rates in the Jabal Al-Akhdar region range between about 400-600 mm/year, and it is characterized by soil fertility, the quality of agricultural production, and its suitable climate for growing fruits in general and apples in particular. The project of planting apples and grapes was established in the study area with 20 farms. In 1985, the state began distributing seedlings of apples and grapes to farmers in this area. A French company was assigned to grow grapes, and the company took the repair of the lands to be planted, fenced them, and then planted them in the correct scientific manner. As for the cultivation of apples, it was carried out by the farmers themselves and they were given agricultural machinery and equipment, as well as equipment related to the fence to protect them from animals

3.0 : The aim of the research

This study aims to design a theoretical framework and a practical approach to establish a green agricultural economy project; with the participation of the public sector and the private sector and operate it in the apple farms in the Belgraa's village at Al-Jabal Al-Akhdar in the Libyan state. This implementation will be under the supervision of the private sector shared with the public sector; as a case study that can be generalized to most agricultural areas in Libya. In this field study, the researcher has integrated four basic topics that are necessary to consolidate the green economy, namely: economic and social factors, as well as two important environmental issues: resource and energy efficiency, and the protection of biodiversity, and ecosystems. The profile of the case study farms was highlighted, the extent of compatibility with the necessities of the green economy, and how the green economy can be established in the context of apple

cultivation in the Belagraa's village of Al-Jabal Al-Akhdar in Libya.

4.0 Research Methodology

The study relies on the primary data collected from the questionnaire and interviews with experienced farmers. As well as on published data from sources, reports, and periodicals from official authorities in the country and international organizations. In its economic analysis, the study relies on descriptive analysis, as well as quantitative analysis methods, using regression models and growth equations.

5.0 Theoretical Framework of Case Study

Leveraging the knowledge and skills of all economic operators is essential to success, UNDP [9] is: 1) Individual 2) to recognize three levels of competence that consist of an organization. 3) Environmental realization system including political, social, economic, legal, and regulatory systems. The theoretical framework that is adopted by Musvoto et al [1] in their study about vegetable farms in South Africa was adopted in this research to organize, compare, and discuss the case study systematically; which summarizes the imperatives of a green economy in the context of case studies. Figure Number (1):

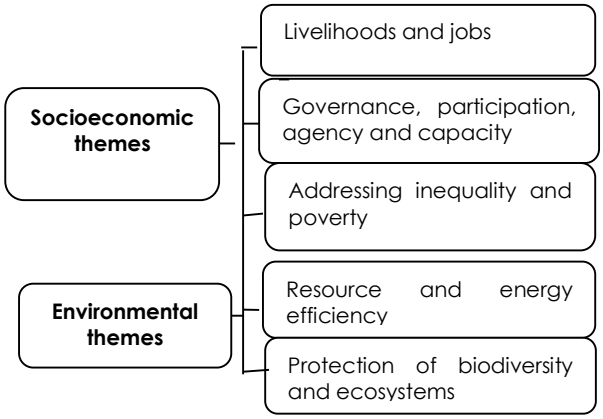


Fig. 1. The structure of the theoretical framework for organizing, comparing and discussing the case study

The previous framework will be detailed to gather information from each farm to reflect its situation. see table 3 below.

Table 3, The information gathering framework used in the case studies

	Framework Themes	Information gathered on each farm
Socio-	Livelihoods and jobs	Employment creation, opportunities for secure livelihood
	Governance, participation, agency and capacity	Participation and inclusion of people on the basis of factors such as gender, age, and disability; capacity building, knowledge and information provision; networking
	Inequality and poverty	Promoting equality and addressing inequalities through direct and indirect participation in vegetable production
	Contribution to economic development	Marketing and linkages to both local and national input and output markets
Environmental themes	Resource and energy efficiency	Use of various resources, including fertilisers, energy, and water; focusing on efficiency of use
	Protection of biodiversity and ecosystems	• Production practices in the context of conservation of soils; pollution and waste management; carbon emissions • Awareness of and practices aimed at protecting biodiversity and ecosystems; • Potential environmental impacts of agricultural practices followed • Investments in building natural capital

6.0 Survey Sample

Interviews confirmed that the apple farms were 20 farms, but their number has been decreased to become 8 farms only. Twelve farms have switched to wheat and barley. This requires studying the factors that led to this degradation and the transition from apple fruit production to other crops.

7.0 Results and discussion

7.1 Socio-economic characteristics of the sample

The results of the analysis showed that farms in the Belgraa village; are mostly classified as usufruct farms. The most important social and economic characteristics of farmers aged 26-45 accounting for 37%, of farmers while 62% aged 46-60. In addition, education levels among farmers are 50% of farmers with preparatory education and 37.5% had a university degree, and 12.5% of farmers

were illiterate. the data; also showed that none of the farmers received a training certificate or scientific qualification for agriculture, that 87.5% had another source of income, and only 12.5% had no other source of income. The analysis of data confirmed that no farmer in the study area was a member of any agricultural cooperative and that there was no role for agricultural cooperatives in the study area.

The field study also showed that electricity reaches throughout the Belgraa region, and the area has a paved road, yet there are financial problems with the maintenance of unpaved sub-roads.

Most of the respondents market their products in the popular markets and some of them sell the entire production to a wholesaler to save time and effort, or both.

It cannot confirm that any farm is considered organic despite the use of compost by some farmers, while others use traditional agriculture (fertilizers and chemical pesticides) intermittently because of their high prices.

Irrigation of water is an intractable problem for farmers, which is the main reason for the decline of the apple farms and their decline to only eight out of 20 farms (40%). The distance between farms and water sources is caused by the difficulty of transportation and the high costs, as this coincided with the lack of machinery and equipment on most farms due to the fee tail and erosion of the existing ones. Table 4 shows the characteristics of the farms studied.

Through analysis of interviews with some farm owners, it was found that the apple farms began to be produced after three years of apple cultivation in 1988 and in the 1980s and 1990s local traders used to buy their products from the farmer at profitable prices, which gave the farmer an incentive to make more production and continuous work. however, many problems started to face the farmers, for example, the long distance between the farm and the water source and the lack of maintenance and difficulty of agricultural roads. This has had a significant impact on crops, and by 2005 farms were gradually collapsing until the number of fruit-producing farms in general dwindled and perhaps another reason for the collapse of apple cultivation.

Data analysis showed that the number of apple farms decreased from 20 in the Belgraa region to just 8 farms. The farmers shift to grain cultivation (wheat and barley) due to dependence on seasonal rainwater, high prices of pesticides, and the spread of pests. It is also clear that the role of agricultural counseling is completely lacking and that there is a lack of training to inform farmers about pruning and fertilization (application of fertilizer amount and timing), pesticide selection, and required amount. Lack of controlling the large number of pests that attack apple trees, and the lack of strategies to protect farmers' products because the country has imported apples from abroad by suppliers that import apples from neighboring countries, resulting, prices falling. Therefore, local production is negatively affected and reduced. Finally, the reason for the low productivity of apple orchards is due to severe water shortages generally forcing fruit growers, especially the apple growers, to switch to crops that can withstand water shortages. This has led to the failure of agricultural projects carried out by the state since 1985 when the apple farms became farms for producing wheat and barley crops. Tables (4, 5) show the finding of data analysis; table (4) illustrate the characteristics of case studies farms, while table (5) shows challenges to implementing a green economy in the study area.

Table (4) Characteristics of Case Studies Farms

.N	Area.	Water source and irrigation method	Markets	Tenure arrangements and livelihood opportunities
1	2.9 hectares Traditional	• Procurement and transportation of water from a well • Manual irrigation	The popular market	• Family farm • Usufruct on farmland • No permanent employment • Temporary employment • Not a member of any cooperative association
2	6 hectares Traditional & Organic	• Procurement and transportation of water from an underground well • Manual irrigation	Wholesaler	• Family farm. • Usufruct on farmland • No permanent staff. • Not a member of any cooperative association.
3	4.40 hectare Traditional	• Procurement and transportation of water from an underground well • Manual irrigation	Wholesaler	• Family farm. • Usufruct on farmland • No permanent staff • Not a member of any cooperative association.
4	3 hectares Traditional & Organic	• Procurement and transportation of water from an underground well • Manual irrigation	The popular market	• Family farm. • Usufruct on farmland • No permanent staff. • Not a member of any cooperative association.
5	3 hectares Traditional	• Procurement and transportation of water from an underground well • Manual irrigation	The popular market& Wholesaler	• Family farm. • Possession of use • No permanent employment
6	6 hectares Traditional	• Procurement and transportation of water from an underground well • Manual irrigation	Wholesaler	• Family farm. • Usufruct on farmland • No permanent staff. • Not a member of any cooperative association.
7	6 hectares Traditional & Organic	• Purchase and transportation of water from an underground well • Traditional irrigation	The popular market	• Usufruct on farmland • Temporary employment.
8	6 hectares Traditional &	• Purchase and transportation of water from an underground well • Traditional irrigation	Wholesaler	• Possession of use • Family farm • Possession of use • Not a member of any agricultural association • Temporary employment

Source: A field study

Table 5. Challenges to implementing a green economy in the study area.

.N	Livelihoods, jobs, and	Governance, participation,	Contribute to economic development	Resource and Energy	Protecting biodiversity and

	addressing inequality and poverty	agency, and capacity		Efficiency	the ecosystem
	• No technically quc employment	• The farm is managed by tl head of the household, af which the children • Lack of assistance from th Government.	• Weak storage capabilities, weak coolers • Inability to obtain agricultural loa	• Lack of water • The distance betwee the farm and the wa sources Lack of goo roads • Unavailability of ferti and if any, their price are very high	• Less reliance on organ fertilizers
2	• Higher wages for workers	• Family cooperation and participation in farm management • No membership in any cooperative association	• The lack of access to modern agricultural equipment to contribute to increasing productivity • Long-distance between the centers of production and consumption, which causes a rise in transportation costs and thus higher prices for the local product.	• Long-term power outages • Transporting water from long distances from the farm	• Do not use chemical fertilizers due to their high prices
3	• Low-skilled labor recruited	• Children inherit farming from their parents • Not affiliated with any agricultural association or union.	• *Not having access to sufficient financial resources • Price fluctuation due to the fluctuation of the quantities supplied in the market of non-domestic production (the absence of any strategy that protects the local product)	• traditional irrigation • Long-term power outages, which affected the crop due to its impact on the pumping of irrigation water	• Soil erosion
4	• Because of high labor prices, the farm owner is doing all the farming for himself	• The complete absence of the role of the agricultural guide	• The Agricultural Bank in the region did not provide any financial support to the farmers	• High prices of chemical fertilizers and pesticides • Irrigation in the traditional way and not using drip irrigation	• Difficulty obtaining fertilizers and herbicides due to the high price
5	• Exposed the worker to the risk of pesticides and chemic*als	• There is no government participation to support farms	• Absence of a productive policy (determining the volume of production and determining the cultivated areas)	• Chemical fertilizers need large amounts of water	• Grapes have fewer problems than apples in terms of diseases and their need for water
N	**Livelihoods, jobs, and addressing inequality and poverty**	**Governance, participation, agency, and capacity**	**Contribute to economic development**	**Resource and Energy Efficiency**	**Protecting biodiversity and the ecosystem**
6	• national labor shortage	• Weakness of the role of the institution supervising agricultural extension	• Inability to access agricultural loans	• lack of services	Less rain than before

7	• Lack of agricultural technical staff	• Weak awareness of collaborative thinking	• The inability to diversify agriculture due to lack of financial means	• Lack of control over input prices in general	• Manual weed removal due to high pesticide prices
8	• Low national employment and high wages for foreign workers	• Absence of an important role for cooperatives	• Price fluctuations and lack of protection of the local product(market)	• Irrigation in the traditional way and not using drip irrigation	• The lack of water and its purchase is the reason for the inability to grow various fruit trees

Source: A field study

8.0 Livelihoods and jobs

Table (5) most farms in the case study deals with temporary foreign labor, and there are no legal contracts between the farm owner and the worker, most of the labor is manual and laborious, whether in agriculture, soil leveling, irrigation, harvesting crops; This is due to the lack of modern agricultural machinery and the inability of farmers to purchase it. There are also many exposures to pesticides and chemical fertilizers. There are no jobs along the value chain. All of this is inconsistent with the green economy's principles of jobs that preserve workers' rights.

9.0 Governance and participation

Farms suffer from a lack of capacity-building opportunities due to a complete lack of state support. There is also a lack of roles for agricultural cooperatives, even if there are fake ones, which means they have no role. There is a lack of sufficient education among farmers about the importance of collective action [10]; and there is a complete lack of agricultural guidance that provides awareness, advice and guidance and technical agricultural courses that educate and sensitize farmers. The results of the analysis also showed the failure of the Government to make any organizational, administrative, and productive interventions to promote the plantations and thus the agricultural sector.

10.0 Contribution to economic development

From Table (5) It is clear that farmers are struggling to cover their production costs. Many reasons include lack of irrigation water, the distance between water sources and farms, lack of access to loans, lack of access to organic fertilizers, and high costs of pesticides and fertilizers.
From an economic perspective, most farms do not fully use the potential to contribute to economic development, partly because farmers do not have access to credit and therefore do not have the financial resources to expand or diversify their operations. In addition, limited financial resources have led to the conversion of at least 12 fruit-producing farms to produce only wheat and barley crops. These crops do not need much water. In general, a lack of financial resources leads to a weak contribution to the economy.

11.0 Inequality and poverty

Analysis of interview data shows that the families were involved in farming collectively especially women played a significant role in farming. However, 100% of farms are managed by men. It can be said that this observation actually supports patriarchal values rather than gender equality, and therefore gender inequality.

12.0 Resource and energy efficiency

The main problem is the provision of irrigation water and the management of water conservation, because the field study showed that irrigation is done by traditional methods and does not use water conservation methods such as drip irrigation; A common weakness on all farms is the failure of agricultural extension to inform the farmer of the ideal size of irrigation for crops and the specific water needs of the crops. Consequently, water is often used inefficiently in fertilizers, in general, these residues are wasted and therefore not recycled soil to improve its fertility and thus productivity.

13.0 A public-private partnership proposal to promote the agricultural sector and to achieve the principles of a green economy implementation.

The public sector and the private sector have complementary advantages - they can achieve a renaissance and a real impact in the agricultural sector, with the public-private partnership combining the operational and economic efficiency of the private sector with the role of the public sector as an enabling and structured environment that ensures economic and social interests. At the same time, in order to establish a green economy in the agricultural sector, changes should be made to the current processes. The change must be based on a realistic, practical basis that suits and addresses the factors surrounding the alignment of the project with the imperatives of the green economy. This proposed strategy combines the determinants or factors that indicate the role of the government in the agricultural sector, as well as the role of the private sector.

13.1 Integrated roles of the public and private sectors

the role of government, which is represented by the public sector; It has been debated among many experts, for example, Michael Porter's role as government locator number five and indirect in the diamond model, the "competitive advantage theory" [11]. In the same vein, Korea and Taiwan have downplayed the role of government in their economies, while Hong Kong remains the freest economy in the world with limited government

intervention [12]. Foster and Davis argument on the role of government in that government intervention strategies may permanently erode the country's competitiveness: They argue, on the one hand, that calling for subsidies and government intervention is a risk of proposing policies that would hurt businesses or enterprises in the long run by instilling a culture of subsidiarity. They argue that supporting a weak government presence would undermine the right role of government in creating supportive institutional infrastructure and an environment conducive to inspired companies gaining competitive advantage [13]. Far from both views, they suggest that the right role of government should be that of catalyst and competitor; Focus on encouraging and motivating companies to raise their expectations and move to higher levels of competitive performance [14]. Public-private partnership: "The PPP is a government-to-government and private partnership agreement to share risks and opportunities in business involving the provision of public services" [15].

Recommendations

In this context, she suggests that the role of the Libyan government should be to create an environment conducive to the development of appropriate legislation that stimulates the private sector. See fig 2

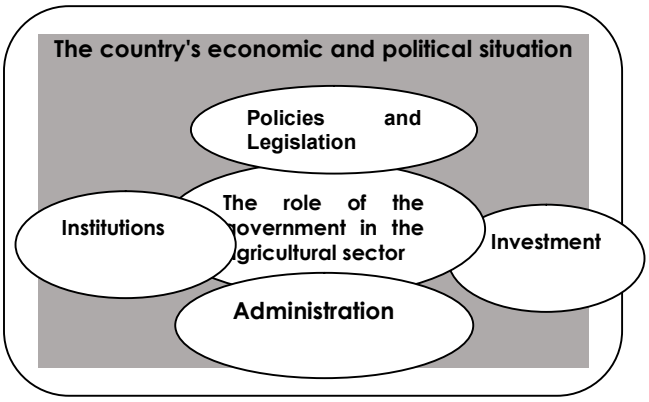
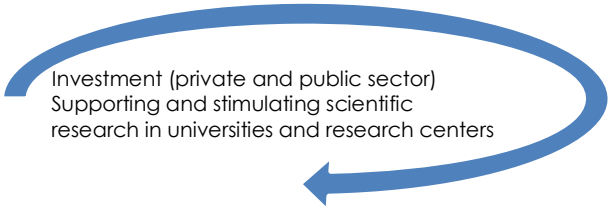


Fig. 2 Proposed for a government role

Suggested solutions for developing the knowledge resource factor in the light of partnership. The role of the public and private sector Figure (3) shows how a database can be established.



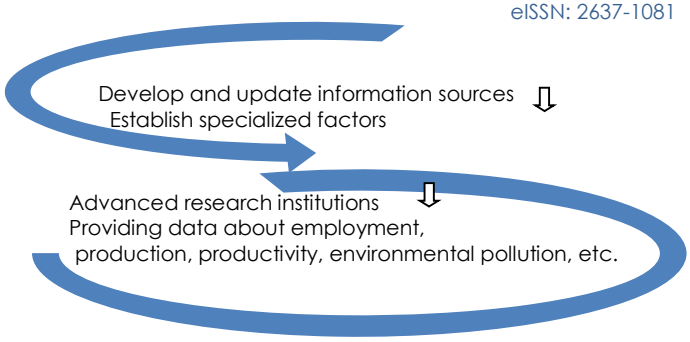


Fig 3. Proposed solutions to develop the factor of knowledge resources.

Figure (4) summarizes the tasks that both the private sector and the public sector share in rehabilitating and raising the efficiency of human resources.

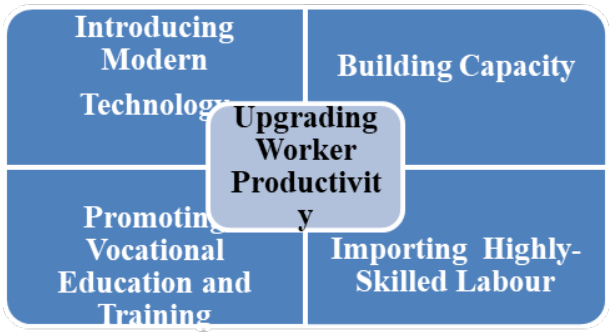


Fig. 4 Proposed solutions for human Resources

Through these genetic factors, models and a partnership guide could be developed for each sector, for example in agriculture, the subject of this study.

The government, in partnership with the private sector, must establish strong and supportive institutions and allocate a large part of the support to invest in infrastructure for agricultural projects such as paving agricultural roads and providing agricultural equipment and machinery at affordable prices to supply farms with water pipes and other farm needs. The role of agricultural cooperative societies must be revived. "In general, the role of the public sector lies in promoting objectives that lead to sustainable investment and strong domestic policies that support a competitive private sector in the market."

Conclusion

This study aims to design a theoretical framework and practical approach for the establishment of the

Green Agricultural Economy Project. In addition, its operation in the apple fruit plantations in the Belgraa village of Green in the Libyan State, with the participation of public and private sector supervision. The difficulties and challenges faced by fruit producers are identified. To meet the needs of a green economy; the implementation of a green economy requires the establishment of precise mechanisms for its implementation and cooperation between the public and private sectors. This includes a trend toward investment in green technology and legislation, a commitment to social responsibility, and awareness-raising about the importance of a sustainable environment.

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