

The Challenges of Agricultural Extension in Developing Agricultural Value Chains in Fayoum Governorate

Hanaa Mohamed Hawary

Department of Agricultural Economics - Faculty of Agriculture - Fayoum University-Egypt

Abstract: *The study aimed to: identify the extent of agricultural extension staff knowledge on the concept and dimensions of agricultural value chains, determine their appreciation of the developing value chains importance, and identify the importance of cooperation between sources of agricultural extension service in the development of these chains. The study was conducted in Fayoum Governorate on a simple sample of Extension workers reached to 100 respondents in seven districts in Fayoum which represented about 90% of the whole extension workers. Data was collected through a questionnaire by interview.*

The most important findings of the study were as follows: The relative decrease of the respondents' knowledge of the concept and dimensions of the agricultural value chain. The results pointed out that the most important problems facing farmers concerned with the development of value chains were: farmers did not benefit adequately from government efforts in the fields of agricultural research and extension (3.22), low productivity and high transaction costs (3.1), while the main problems associated with agricultural extension were: public services focused on sporadic concerns rather than addressing the agro-industrial chain as a whole (3.65), lack of appropriate alternatives to finance extension activities and services (3.45), and The majority of the respondents (93%) said that the level of problems they perceived was either moderate (53%) or large (40%).

The results showed that the most negative problems affecting extension system for farmers were: poor training, lack of available information (2.9), lack of access to and poor quality of agricultural inputs (2.8), while the most negative problems related to agricultural extension were: the extension role lack in providing information on production, lack of interest in export and providing market information (3.6), the erosion of the functional system of agricultural extension and lack of numbers Field Guides (3.4). Therefore, the most important suggests of respondents regarding the problems facing extension system were: For farmers: Encouraging collective work between farmers and exporters through direct contracts, provide inputs, include extension services for all actors in the chain, Where pointed out 95% and 91% respectively, the most important suggests related to agricultural research role were: to meet needs of actors at all levels of the chain, to support a strong reserve of scientific research and the private sector Where pointed out 91% and 90% respectively. The most important suggests related to the state role were: Supporting extension sector in order to regain its active role in transferring research activities, providing credit to and facilitating farmers, and its timely arrival to them, Where pointed out 95%, 85%, and 85% respectively.

Date of Submission: 17-09-2019

Date of acceptance: 02-10-2019

I. Introduction and problem statement

The agricultural sector is an important contributor to the global economy. About 75% of the world's poor live in rural areas, the majority of whom depend on agriculture as their main source of income and livelihoods. There are approximately 500 million smallholder farmer's worldwide [1]. Agriculture is an essential means of sustainable development and poverty reduction, but constraints in this sector are hampering its development, as it is highly costly and severely constrains the competitiveness of small farmers. Sudden changes in food prices have revealed the inability of agricultural production to meet Global needs, emphasizing need g Investment in agriculture is increasing at all levels, and agriculture is gradually evolving into highly competitive modern systems driven by consumer demand for higher value products and better manufactured according to quality and safety standards, requiring certain levels of efficiency and productivity, the future of farmers and traders depends on agricultural value chains Through their ability to compete and adapt to markets, through collective competitiveness involving all those involved in the chain, episodes of fragmented chains will not be able to withstand competition [2].

Agricultural transformation in market is not only creating new challenges, but also new opportunities to use that integration to increase competitiveness and access to finance. The introduction of new markets when agricultural value chains become more developed and their production responds to secured markets, so that the financial institutions can increase their services and support to expand the growing integration of these chains. Priority in the development of agriculture [2].

The evolution of agricultural value chains is a powerful tool to reduce poverty and combat the challenge of food security in developing countries, many of which aim to develop these chains to increase food security by involving the private sector in managing the value chain for consumer markets in partnership with governments. Agriculture, which has begun to treat agriculture as an activity that involves the production, storage, and processing of goods in value chains, from farm to food, so harnessing the practical experience and resources of the private sector through partnerships can improve trade outcomes and Development [3].

Several studies [4] and [5] have shown that value can be added and analyzed for distribution along the chain, so as to show what the rings are, their profitability potential within them, and the production process is successful if the added value of each activity The cost of performance exceeds each stage, value chains include a complete system of production, processing and marketing, consisting of actor series including farmers, traders, processors, wholesalers, retailers and consumers, linked together by product flows, finance, information and services, as well as all input suppliers, technology delivery agencies, scientists who are indirectly involved in appropriate technologies development, extension staff who participate in capacity-building and the provision of various services to farmers, stakeholders involved in post-production activities that regulate the collection, classification, storage, transport, processing and marketing of the product, financial institutions, lead effective links Between different stakeholders to improve production and make profit.

However, linking farmers to markets is not easy and physical infrastructure such as storage, manufacturing facilities, markets, roads, electricity and communications facilities may need to be built or improved, knowledge of the products to be produced, and new production techniques adopted so that they can produce the quality and quantity required at the time. They may need to invest in expensive equipment (such as irrigation systems) and inputs (seeds and fertilizers) [4].

The Egyptian agricultural extension organization is characterized by its various administrative and supervisory levels, its relations with various agricultural, technical sectors, and the increasing number of beneficiaries. The views on extension have changed from its focus on agricultural production to helping farmers organize themselves, linking them to markets, strengthening the conditions of rural poor, small enterprise development and environmental preservation.

Since the development of value chains is essential to enhance global competitiveness, traditional agricultural extension, which helps farmers make the best use of their available productive resources, find solutions to constraints that limit their efficiency and productivity, is directly concerned with the development of these chains, should therefore be expanded to include Helping to form farmer groups, deal with marketing issues, and partnering with a wide range of service providers, considering that existing extension systems facilitate access to knowledge, technologies and facilitate their interaction with farmers, their organizations and other actors, Urged, education, and other relevant institutions, helping them to develop the technical, organizational and managerial skills, find solutions to the constraints that limit the efficiency, productivity of other actors in the chain, and develop the cooperative relationship between them to ensure the provision of value chain work better solutions [6].

The ability of small farmers to innovate is often linked to teamwork, knowledge-sharing among different actors along the chain, including incentives and resources to stimulate such collaboration, public extension systems have focused on technology transfer for major food crops, while building capital Social development has not played a key role in the previous agricultural development strategy, so to improve rural livelihoods, farmers must be organized into different types of producer groups, help connect these groups to markets for crops and suitable high value products [7]. Despite agricultural liberalization policies since the early 1980s, post-harvest activities are still neglected, public and private services still address sporadic concerns rather than addressing the agro-industrial chain in a comprehensive manner, due to limited knowledge of value chain General, with need to support the knowledge and practices of extension agents within the value chain [8].

In addition, agricultural extension suffers from many problems that limit the performance of its role in value chains the development, including: weak linkages between research and extension institutions, the erosion of extension staff and the inadequacy of available workers with their new tasks required, with low educational levels, Good training opportunities lack for them, coupled with lack of many technical and managerial expertise in field extension needed to study changing market economy, post-harvest transactions and marketing strategies to successfully deliver products to value chains.

The importance of this study comes in the light of its relative scarcity and lack of extension studies, which dealt with the study of agricultural value chains, the extent of knowledge of agricultural extension workers and its various dimensions, as the identification of what they are and the actors help them in development, improve the performance of extension workers through their awareness of the development importance, need for cooperation All institutions and bodies concerned with the agricultural extension service provision, the unification of their objectives and activities to develop these chains, which may reflect their increased ability to meet the challenges of agricultural sector in general, challenges of strengthening agricultural value chains in particular, and due to lack of extension studies that addressed this topic, how to benefit from it in

the development of agricultural sector, so this study was conducted in an attempt to answer some of the following questions: necessity of joining all institutions concerned with rural development and providing extension services as a way to develop these chains ?, How much do they appreciate the extent of problems that hinder their development, and their appreciation of their negative impact?

II. Objectives of the study

Based on the problem statement, the following objectives were identified:

1. Determining the agricultural extension staff knowledge in Fayoum governorate on the concept and dimensions of agricultural value chains.
2. Determine the extent of respondents' appreciation of importance of agricultural value chains developing.
3. Recognizing the importance of cooperation and integration between the sources of providing agricultural extension service (governmental, NGOs and private) in the development of agricultural value chains from the viewpoint of respondents.
4. Determining the extent of the respondents' assessment to extent that there are problems that hinder the agricultural value chains development.
5. Determine the extent of the respondents' assessment of problems negative impact on the agricultural value chains development.
6. Identify the most important respondents suggests about the developing agricultural value chains problems.

III. Literature Review

Since the beginning of the millennium, the concept of agricultural value chain has been used primarily by agricultural development practitioners in developing countries. However, there is no universally accepted definition. Some have pointed out that it is a full range of services needed for the agricultural product to move from farm to end customer or consumer. The terms “value chain” and “supply chain” can be distinguished, often acting as the other, but the latter often used in industrial chains [9]. The concept of agricultural value chain refers to an integrated set of activities and participants in the transport of agricultural products, from Inputs to farmers' fields down to consumer table, each participant or process in this chain has a link to the next to form an integrated chain, at each stage an additional conversion or enhancement of the product (manufacturing and packaging) is done. [2] and [10] defined it as a number of interconnected activists in the series, and a number of successive multiple activities in it, which add value to a particular product until it reaches the end user.

The value chain is structured links between producer groups, traders and service providers who join together to improve productivity and added value to their activities [8]. The basis of series is that different companies work together to produce, pack, process, market, deliver services in an efficient manner, and allow chains to farmers. Entrepreneurs will work together to respond to market demands by linking production, manufacturing and marketing activities.

Chains are a business model in agriculture, and products form strategic alliances with other supply chain actors, such as aggregators, processors, distributors, retailers and consumers, to enhance financial returns through product differentiation and social or environmental values [11]. The success of these chains depends on the human and social capital that forms the linkages in chain of individuals and networks, the quality of interrelationships, the advance planning of risks and the explicit participation of them throughout the chain, as well as the volume of logistics [12]. These chains should become easier and more useful for smallholder participation, especially when they form or join cooperatives to improve their bargaining power and increase their access to suppliers of knowledge and extension services; productive assets such as seeds, tools, marketing information and skills, so that they can gain more value from selling their products [13].

Public-private partnerships can play an important role in ensuring participation in global chains to sustainable growth and development in developing countries, including infrastructure development, linkages between local producers, overcoming market failures, and if private sector participation can avoid Governments also incur significant financial expenditures. They also place increasing demands on the institutional capacity of governments to regulate sector, monitor the performance of partners in relation to their contractual obligations, creating an appropriate regulatory environment that works well in the infrastructure sector and mobilizing domestic and foreign investment [3].

Due to lack of extension studies in this area has diversified, multiple dimensions, axes of the study of the research that has been accessible and objectives, in order to help identify this area, to form some beginnings of other research ideas in it. The Roduner study [14] for the development and financing of agricultural value chains indicated that the main reasons for donor funding for value chains were: Some individuals needed support to become active in existing chains, increased bargaining power, need for some actors in value chains For their limited potential to support to explore new opportunities, the possibility of creating competitive advantages for the entire system.

Porter's study [15] reported that the sales of 40 grocery stores at competitive prices, which generated significant returns for their farmers compared to traditional supply chains, were developed by employing a number of differentiation strategies that appeal to consumers, regional brands, product source identification, and ensuring the use of Sustainable production practices, coupled with the supply of products that meet consistent specifications, and examine ways to reduce intermediary costs in marketing and distribution, with full transparency to potential buyers.[16] confirmed that increasing the value of farmers from their production will increase gradually through the rapid shift to demands of consumers, retailers, governments in agricultural export markets in New Zealand, and governments provide support to local farmers to enable them to meet the requirements These shifts pose risks and opportunities for farmers if they are able to produce and market outputs that appeal to sustainable consumers. The study also pointed out that increasing production value can be achieved through improving the export situation in foreign markets, addressing the basic output to increase its value, or by producing specialized products.

Rubin &Manfre study [17] attempted to answer the question of how agricultural extension can be developed to meet needs of the current complex and dynamic agricultural landscape using a gender-responsive value chain. The most important factors that facilitate the chain performance improvement through more efficient products, with more activities, are: The study also showed that women have fewer resources for improvement (employment, information, training, credit, membership in organizations and federations), so they are not in a position to improve their performance in chains. Different types of development of chains, each of which includes a different set of constraints and opportunities for women or men are: a) emphasizing the need to increase efficiency of production processes, reducing unit costs through the organization of improved production or technical process, b) attention to product quality level To increase its value to consumers, c) upgrading career by entering new higher value added functions in the chain to obtain a higher unit price for the product, and d) upgrading the channel by entering into new marketing channels, such as export rather than the domestic market.

[18]reported that there are many small producers associations in Fayoum governorate that provide production services to them, and market the products of their members locally, some of which are exported according to the contracts of importers. On the drying of products naturally, members benefit from a price difference of up to 40% for some medicinal and aromatic plant crops, in which multiple actors influence the entire chain through services provided such as training and supervision of all stages of production and marketing, information supply, to help get certification.Birachistudy [4] pointed to the importance of organizing farmers in groups so that they can sell in large quantities and negotiate better prices, because they need links with potential buyers, information about prices and sources of credit. The relationship between farmers and buyers, but rather a series of producers to consumers, where they should know the context of series of macroeconomic regulations etc., innovation platforms and their availability, the way to deal with complex issues, and stakeholders in the chains to design solutions to problems along the value chain.

In Diamondstudy [12], it's showed the role of communication within and outside food value chains based on trust and commitment, to generate a coherent brand, distinguishes products in the minds of consumers, thereby creating sales opportunities. Food value chain strategies include: common brand presentation, process development or the product is in accordance with honest standards, marketing strategies, standards and certifications used throughout the chains to ensure that all producers supply by adhering to an acceptable quality level, environmental sustainability, and strategic alliances that deal with large quantities of high quality products. The study emphasized that farmers should be treated as strategic partners, not as input suppliers, that specific agreements between farmers and other chain partners should include: a reasonable calculation of production and transaction costs, price negotiation, appropriate timeframes, participation in the development of conflict resolution mechanisms, Concerns about performance, or changing trends within the chain.

The study showed that the emergence of communication technology has created new collaborative methods of business management and control that operate in accordance with a set of common operational, ethical principles to open communication between all partners of the chain, to exert significant influence in the price negotiations with buyers, to benefit from constant exposure to information about the habits and preferences of customers, as stressed The study argues that strategic alliances with actors enhance financial returns, support, mutual cooperation, transparency and trust relationships between chain partners.

A USAID study [19] was conducted to determine extent to which relationships between farmers and other actors in the traditional and high value chains resulting from the implementation of an agricultural project in Liberia have changed. The results revealed that the project has been successful in strengthening, expanding farmers 'networks as a whole, and has increased the number of farmers' links with buyers. The number of very strong and strong relationships increased by 81%, while the number of weak and very weak links decreased by 19% over the life of project. The results also pointed to the importance of differences in chain development methods. A pack of aid for more The study recommended that chain promotion activities should focus on forming new activities to diversify partnerships with input suppliers and buyers, promote sustainable sources of

agricultural extension services, the productivity of existing social capital relationships, strong market linkages, facilitate aggregation, wholesale procurement to improve Economies of scale and access to new markets.

Duhaina study [10] focused on financing the potential value chain demanded at all stages (input suppliers, manufacturers, intermediaries and buyers), to combine financial services with marketing activities, relationships between the parties in the chain and to facilitate information exchange and enhance trust between them. Integrated repayment mechanisms, while trying to address the difficulty of market access for small farmers and the most important conditions that enable them to benefit from agricultural financing directed to their activities, the study focused on the agricultural value chain as a guarantee for repayment of loans, and to help increase productivity to sell the farmer production to the intended buyer, At a fair price allows him to repay the loan. Shamsan study [20] recommended need to encourage the development activities of value chain of the coffee crop in study area by adopting some activities such as: product development and supporting some investments related to its improvement, training farmers to improve the quality standards and adherence to the required specifications in the local and international markets, attention to institutional support, The capacity of farmers at the farm level to improve the production process, support the extension of the agricultural extension to have an effective presence and role in the targeted research activities transfer, provide support by development projects and government agencies to purchase agricultural inputs, networks Modern irrigation, and collective action for direct access to international markets, with need to pay attention to the government sector to reduce interest rates for loans to farmers.

Shen study [21] aimed to identify the mechanism of increasing value of the potato industry chain by regulating the relevant technology and increasing interaction between parties of chain. Modern science and technology, also through the application of some methods such as improving regional distribution, distributing virus-free seeds and promoting high productivity, cooperative mechanism, technology and extension along the chain, and build a dual platform, research achievements are converted to productivity, Promote long-term and stable funding of financial support for this project, improve the technical and productive efficiency of agricultural investment, along with the establishment of a special potato fund to improve their production capacity, solve key technical problems, increase the income of potato growers, lay the foundation of the potato industry chain and development, ensure industry chain Excellent, sustainable and healthy.

[22] emphasized that agricultural extension services are extensive and its function is supported by many actors including those working in the government sector, private sector, civil society, farmers themselves, that it helps farmers access information about technologies, markets, inputs, financing, promotion Urgent efforts should be made to: enhance rural access and new technologies knowledge, ensure that farmers and chain actors can deal with changing markets, enable them to understand the new climate change challenges, The study stressed that these urgently needed reforms will only be effective if extension institutions are strong and influential in policies that affect their lives. Lack of national regulations, rules and strategy governing extension in most countries, low educational level of staff, emergence of New roles (facilitators and intermediaries) pose a major challenge to dominant technology transfer model, therefore require participatory extension and learning methods, along with human resource constraints, need for extension workers to facilitate communication skills and train stakeholders in natural resource management; The study showed that these tasks require skills in critical thinking and problem solving, which currently exceed the capabilities of most extension agents in the public sector, in addition to competing for the quality of employees from markets. Work better pay, loss of experienced staff.

Ammani and Abdullahi [6] stressed need to refocus the concept of agricultural extension beyond farms and includes actors in the value chain, also reorganize its activities to target them all, enhance their efficiency, facilitate the relationship development between them, and expand its fields to include specialists in all required areas along , The study also showed that agricultural research workers should develop strategies to identify needs not only for farmers but also for actors at different levels of the chain, to apply extension methodologies that will take into account the nature and characteristics of those actors. A multi-extension system development to address the constraints to performance of different actors in the chain. In [23], the study showed how value chains can be made more transparent? Organizations have tried to address this by leveraging information and communications such as mobile phones, the results have been encouraging indicate positive changes in productivity, income, tracking and financing. Also revealed need to do more to ensure sustainability of such initiatives. Beyond pilot period of some projects, the study showed that donors and implementing agencies should have clear plans to ensure that positive results are increased, sustained through clear and realistic revenue models, need to focus on The government has a more important role to play in providing an enabling environment to open the data set it controls, engage it in chain transparency, benefit projects, and go a long way towards ensuring sustainability.

As per Dekens and Dazé study [24] in Uganda highlighted the critical role of service providers in value chain development, as well as their role in climate risk management. The study noted that there are a number of core services supporting this area: climate information services for all decision makers, Financial services,

including credit, savings and insurance, to diversify activities and income sources to protect against shocks, as well as market information systems to provide pricing, supply and demand information, to support risk analysis and assist in decision-making activities of the chain, including input purchases, and the time to purchase Products, infrastructure such as roads, storage and ICT facilities, as well as agricultural research and extension services, as well as other development agencies such as NGOs, and some services such as emergency response provided by the government or NGOs. These include: limited access to climate risk information, human capacity to analyze risks, develop management strategies, limited access to financial resources to invest in this area, and support for service providers. To overcome these constraints in: raising awareness on climate change and technical assistance to analyze their risks and management options; strengthening services to actors in the chain; and partnerships with agricultural research and extension institutions to provide climate-resistant agricultural knowledge, practices and techniques.

The results of the study by Lemma et al. [25] showed that while extension services in Ethiopia have recently focused on the production of high-value goods, advice, training and support to facilitate linkage with regard to market information, storage, processing and marketing of commodities is generally not strong. Using innovative methods and tools to provide market-oriented extension services for agricultural development on a large scale, Ethiopia's traditional extension programs have focused on enhancing agricultural production technology and inputs as a driving force for increasing agricultural production and productivity, with insufficient attention to market support services.

The World Bank group [1] reported that women receive less than 10% of agricultural extension services, so they cannot benefit from sharing knowledge about improved agricultural practices, sustainable agriculture, the correct use of inputs, and the quantity and quality of production required, reflecting their inability to become active members of the chain, as well as lack of access to information and networks that facilitate sales opportunities, forcing them to sell to local brokers without exploring wider market opportunities. The report also emphasized the importance of gender mapping to identify the distinct roles of men and women in the chain, Li finance, insurance, partnerships, so the report said the need to evaluate who does what, to the different activities and roles of the added value performed by gender in chains in different countries and commodities.

ICCo India [5] explained that farmers in India were able to produce agricultural products, such as fresh fruits and vegetables with greater potential for value addition than traditional crops, and when access to processing, marketing and distribution could enhance the value of end products, and thanks to these new strategic directions Demand from chain players to help with improved production techniques, business development services and market linkages along the chains has increased, yet limited access to input and output markets is hindering smallholders in India. Lack of knowledge and the limited capacity of public and private agents hinders agricultural development, so the study has confirmed that the value chain bring all stakeholders on a common platform to contribute their best.

According to the Department of Trade and Industry [26], the past three decades have seen the Philippines lag behind other Asian countries due to slower growth in agricultural production This is attributed to: insufficient investment in modern technologies among smallholders, climate unrest, slowdown in exports, until interest in agricultural value chains began, high value agricultural markets became more developed, standardized and organized, which made new actors involved in modernizing these chains; National and international companies are now determining how products are grown, harvested, transported, processed, stored through a series of public and private standards that all producers adhere to in order to maintain market access. These changes have required producers to evolve in different ways to Market access, such as installing new irrigation systems or switching to organic production. Chikaire et al [27] showed that extension staff advise farmers mainly in storage (91.6%) and marketing (81.6%), as well as performing extension tasks such as disseminating research findings, teaching those improved practices, but they are not directly interested in giving advice. The results also show that extension staff need to be trained in four important areas: crop / livestock, post-harvest, agribusiness, management, marketing / market analysis and support services. The study on need to provide training Necessary to develop the value chain especially for pre-service training counseling graduates.

The results of FAO study [28] in 2018 showed that women in Albania are mainly involved in the production of value chains for the medicinal and aromatic plants sector, which represents about 18% of total agricultural exports, employ mostly women and youth, but the increasing demand is limited by: lack of financial means to invest in farmers, the high standards required for agriculture and post-harvest are poorly regulated. The results also show that lack of land ownership prevents them from benefiting from grants or funding, and their limited access to vocational education. Play Low-paid jobs, reflecting need for women's economic empowerment to increase their access to economic resources and productive assets, including knowledge, skills and market information, the results showed that gender criteria indicate gender roles within value chains,

leading to differences in access to assets. These differences need to be quantified and controlled, with a focus on women's ability to participate beyond the role of producers, their access to higher chain jobs and market access.

In [29]; the study aimed to explore the current state of extension systems in Tripura, conducted a consultative workshop for stakeholders to understand their perspective on this situation related to the development of volunteer capacities in agriculture and related sectors, identified the first value chain of extension as marketing guidance. The study stressed the importance of diversification in horticulture, high-value fish and animal husbandry, and the availability of the necessary input technology, especially in light of Tripura's heavy reliance on agriculture, so the development of entrepreneurship will open up prospects. However, the main focus should be on exploring potential markets in the country and abroad, developing trade relations to strengthen its economy and entering an enabling environment for economic development through agriculture.

World Intellectual Property Organization (WIPO)[30] found that Ugandan farmers and producers face significant innovation challenges, including unreliable agricultural conditions, natural disasters, liquidity constraints, market risks, inaccessibility or poor quality of agricultural inputs, limited market opportunities and lack of access to them. Adequate government efforts in research and development and give preference to you at the expense of quality, affecting the chances of small producers to use traditional techniques, the difficulty of responding to product standards, competition with more sophisticated companies, The study recommended that the government address barriers to value creation innovation in agricultural systems, by improving knowledge transfer innovation environment for farmers, to enhance the utilization of research and development activities.

Ngowi and Mauki[8] revealed that extension staff have different levels of knowledge of the overall concept of value chain with majority of them at the low level, and the majority of them are aware that value chain approach can be used in extension, but few have used it and provided little. From the advice on some activities along chain, mainly in storage, processing and marketing, the most important factors limiting practice of chain approach in extension were: lack of training along the chain, limited access to information, inadequate supervision and lack of knowledge among extension staff. The study stated that training courses, seminars, workshops, conferences and study tours should be provided to service extension staff to enhance their understanding of the concept of chain and its application in extension work.

A study of aimed to identify extension activities for private agricultural traders [31] found that the most important of which were: providing inputs and advisory services in storage, post-harvest processing, agricultural processing and marketing of value-added products, in addition to collecting, documenting and transferring knowledge related to production and marketing. The most important methods used to provide inputs as an alternative mechanism for public guidance systems were customer incentive systems, input supply channels, and 70% of input traders reported their direct dealings through sales transactions. The remaining percentage expressed that they go to different forms besides input sales such as contract farming, product purchase agreement and crop sharing. The main advantages of using these methods are: facilitating the sale of products to companies, easy access to agricultural products for export, assistance to agricultural companies. A number of methods have been used to motivate farmers towards a particular technique, including the use of field assistants and marketing agents, the provision of inputs, and the distribution of publications.

The Ministry of Gender and Development of Liberia [32] shows that agricultural value chains face enormous challenges in general, and are affected by constraints related to women in Liberia in particular that affect household food and nutrition security and their ability to generate income sustainably. Support women's access to opportunities to participate in chains through: 1. Upgrading their roles to include processing and marketing roles, access to post-harvest technology, including storage and market linkages, 2. Develop new products, or join active members of new chains, 3. Increase the efficiency of existing chain interactions, by facilitating access to techniques and training, as well as organizational, marketing capacity that should include facilitating linkages between them, wholesalers and processors, 4. Address issues related to infrastructure, storage technology, market information and access to finance. The Agriculture Ministry needs strong research and extension capacity to successfully design, implement and monitor gender-sensitive programs, contribute to their integration into the agricultural sector development strategy, and ensure data collection and analysis regularly disaggregated by sex and equipped with staff capable of advancing the agenda of these programs.

Pioneers website [33] pointed out that there are many challenges in the current value chains of vegetables in Egypt, which must be overcome to improve the performance level within the chains: Transport costs, especially for the majority of fragmented holdings, inadequate infrastructure, limited access to finance, especially for small farmers, lack of marketing information, lack of agricultural extension, lack of skills for agricultural workers to meet market demands. The high rate of crop losses, which reached 30%, lack of suitable post-harvest facilities, which reflected on the increase in rate of loss in storage, transport and handling, and the continuing fluctuations in prices, therefore, the most important opportunities were: Availability of donors for economic development operations in the first governorates of development, The possibility of cooperation between the agricultural sector and other economic sectors, raising the water transport efficiency, distribution and efficiency of its use in different field irrigation systems, the possibility of expanding agricultural

industrialization, providing opportunities for small and medium-sized enterprises, the possibility of establishing agricultural crop collection centers, improve economic relations between the countries, and orientations of the government to reclaim a million and a half acres.

Based on the above, we conclude that the process of strengthening chain is based on knowledge, demanding generation and dissemination of appropriate information, challenges knowledge, problems and opportunities facing key actors, service providers along the chain, access to inputs, facilitating linkages between actors and higher value markets. The flow of products and services within the chain has become safer, and the added value of agricultural products may reduce the amount of waste, ensure food security, maintain quality, reduce consumer prices, improve farm incomes, also enhance Adding through improved technology, improved infrastructure, and better prices due to demand-driven production, agricultural research and extension needs human capital aware of these issues to identify and deploy technology to address constraints related to the development of value chains. Extension workers should be aware of the process. The entire value chain and their functional towards strengthening them, especially in light of the shifting and traditional diversification of agricultural extension roles to include participation in management and marketing functions, is no longer sufficient to provide technical solutions to production problems as this cannot make farmers more independent. Extension efforts should be geared towards developing skills and strengthening the capacity of small farmers to become more competitive and profitable.

IV. Methodology

It includes the study sample, research variables, in addition to the method of measurement, and statistical methods used as follows:

The study sample

A simple random sample of the extensionists were selected, the size of 100 respondents in the seven Fayoum districts, which represents about 90% of the total size, the field data was collected through a questionnaire interview questionnaire prepared for this purpose, and the data collection and scheduling took about four months.

Research variables and methods of measurement

Age: The age variable was entered according to the raw number, while rest of the variables were measured as follows;

Qualification: One degree was allocated to the intermediate qualification (diploma), two degrees for the qualification above average, three degrees for the higher qualification, and four degrees for the master's degree.

Vocational specialization: one degree was given to agricultural non-extension specialization, two degrees for general specialization, and three degrees for the specialist in agricultural extension.

Professional status: The following weights (1,2,3,4,5) have been allocated according to the functional and professional grades of extension workers from extension managers and inspectors at the level of agricultural departments, managers of agricultural associations, extension specialists, supervisors and agricultural extensionists respectively.

Knowledge of agricultural value chains and their different dimensions: The respondent was asked about his knowledge of agricultural value chains, their dimensions, the actors in them, and how to strengthen these chains. The actual range of this variable ranged from (1-29 degree). Accordingly, the respondents were divided into three categories: Low knowledge level (less than 10 degrees), Medium (from 10-18 degrees), and large (19 degrees and above).

Problems faced by the pilot when developing value chains: measured by:

A- The extent of problem: Weights (4, 3, 2, and 1) were given to responses (always, sometimes, rarely, and not) in order to determine the extent of problem or not in respondent or agricultural extension to which he belongs, then degrees were collected to reflect the degree An average degree for existence of each problem was calculated by multiplying the frequency of each category of scale (always, sometimes, rarely, and not) in given weights, respectively. These degrees were then collected and divided by the sample size.

B- The negative impact of problem: the same method of measurement was used to the extent of the existence of marketing problems.

Methods of Statistical Analysis

To analyze the study data, several statistical analysis methods including; numerical inventory tables, percentages, arithmetic mean and range were used.

V. Results and discussed

Characteristics of the respondents of the extension staff

The results of Table (1) showed that the majority of respondents (84%) were either elderly (48 years and over), or average age (38-47 years), was approximately three. More than half of them (53%) have a diploma in agriculture, compared to 38% have a bachelor degree in agriculture, 42% of them are agricultural extensionists. 30% of them are extension inspectors in the centers, more than half (55%) are professional in general, compared to only 14% of them are agricultural extension and rural development, more than two thirds (68%) Their work in the agricultural sector is large (18 years and over), and almost half (49%) were also working in extension field, more than half (54%) did not participate in any of the local and international agricultural development projects. 32% participated in a small number of these projects (less than 5 projects).

Previous results indicate that the majority of extension workers are elderly, which may reflect their lack of interest in new fields knowledge in agricultural extension work, and therefore may reflect on lack of tasks performance and activities in those fields, the vast majority of them are not specialized in agricultural extension, which Reflects the urgent need to intensify in-service extension training, in order to understand the nature and philosophy of extension work, to acquire the minimum information that helps them to perform their duties with an understanding and conviction, especially in the light of the absence of more than half of them in agricultural development projects, This may be a window to introduce them the most important agricultural developments, whether at the local or international level, which may reflect on their failure to follow up on the most important changes and challenges facing the agricultural sector.

Table (1): characteristics of the agricultural extension workers

characteristics	Number	%	characteristics	Number	%
Age		n = 100	Scientific Specialization		
• Young (less than 38 years old)	16	16	• Non-Extension	31	31
• Middle-Age (38-47 years old)	24	24	• General	55	55
• Seniors (48 + years)	60	60	• Agri. extension	14	14
Sex			Period of service in the agriculture sector		
• Male	74	74	• Few (less than 10 years)	16	16
• Female	26	26	• Medium (10 - 17 years)	16	16
Residence			• Large (18 + years)	68	68
• Countryside	62	62	Period of service in agricultural extension		
• City	38	38	• Few (less than 10 years)	35	35
Qualification			• Medium (10 – 15 years)	16	16
• Diploma	53	53	• Large (16 + year)	49	49
• Qualified above the average cultivation	4	4			
• Bachelor of agriculture	38	38			
• M.A	5	5			
Professional status			Number of times involved in projects		
• Extension manger	5	5	• Not involved		
• Subject matter specialist	8	8	• Low (less than 5 projects)	54	54
• Extension inspector	30	30	• Medium (from 5-9 projects)	32	32
• Director of the Agricultural Association	10	10	• Large (10 projects and more)	7	7
• Agricultural supervisor	5	5			
• Agricultural advisor	42	42			

Source: calculated from the study sample questionnaires.

Knowledge about agricultural value chains

The knowledge about agricultural value chains and their dimensions include (concept, actors in chains, and how to strengthen these chains) as follows; the results of Table (2) showed the relative decrease of respondents' knowledge of the concept and dimensions of agricultural value chain. The most known items were: enhancement of the chain is based on access to inputs, in addition to the concept of value chain. The promotion of chain is based on enabling continuity of information flow through it (47%), the chain is a network to develop farmers, traders and marketers to improve product quality (44%), and the chain approach focuses on interaction of stakeholders in each step to develop relationships to reach markets and suppliers (44%), the results also indicated that the majority of respondents (83%), their overall knowledge was either low (44%) or medium (39%). The main sources of agricultural value chains knowledge were: extension work, radio and television, where 30% and 23% indicated. The results indicate that extension staff are not aware of many knowledge items related to agricultural value chains, which confirms need to provide specialized training courses in this field,

which reflects the inability of extension agency to provide necessary training courses for extensionists, which affect their competence and ability to keep up with Challenges and changes in agricultural sector, on the one hand, to meet needs of farmers and all stakeholders along the chain on other.

Table (2): Distribution of respondents according to their knowledge of the concept and dimensions of the agricultural value chain

Concepts and dimensions of agricultural value chain	Known						Not known	
	Perfect knowledge		Partial knowledge		Weak knowledge		Freq	%
	Freq	%	Freq	%	Freq	%		
A series of commercial activities and services to produce high-value products from the end-user perspective at lowest cost.	27	27	19	19	18	18	36	36
Consists of a series of stakeholders from input suppliers, producers and processors, to exporters and buyers involved in necessary activities.	15	15	30	30	15	15	40	40
Includes all operations from agriculture to distribution and marketing, until the product reaches consumer.	20	20	20	20	22	22	38	38
Network to develop farmers, traders and marketers to improve product quality.	18	18	23	23	15	15	44	44
The chain approach focuses on the interaction of stakeholders in each step to develop relationships to reach markets and suppliers	21	21	23	23	12	12	44	44
The sequence of production, marketing and consumption where at each stage there is an opportunity to add value.	14	14	35	35	15	15	36	36
Chain promotion is based on:								
a. Disseminating appropriate information on the challenges, problems and opportunities facing actors and service providers.	20	20	25	25	17	17	38	38
b. Access to inputs.	45	45	29	29	14	14	12	12
c. Enable continuity of information flow across the chain.	19	19	23	23	11	11	47	47
d. Overcoming obstacles and constraints by cooperating with each representative.	18	18	26	26	16	16	40	40
Knowledge degree	Number		%					
Low (less than 10 degrees)	44		44					
Medium (10-18 degrees)	39		39					
High (19 ° and above)	17		17					

Source: calculated from the study sample questionnaires.

Table (3): Distribution of respondents according to their sources of Knowledge about agricultural value chains

Source of knowledge	Frequency	%
• Extension work.	30	30
• Radio and TV.	23	23
• Studying.	21	21
• Net and social media channels.	17	17
• Reading and reading in books and newspapers.	15	15
• Business, agriculture and markets.	14	14
• Courses and conferences.	10	10

Source: calculated from the study sample questionnaires.

Respondents 'Appreciation for the Importance of Developing Agricultural Value Chains

The results of Table (4) showed that the most important opinions of respondents regarding need to develop agricultural value chains were: Increasing farmers' access to extension services, improving access to production inputs (seeds, tools and marketing skills, etc.), increase the bargaining power of small farmers in chain and improve their capacities, link them to many markets where mentioned 90%, 89%, and 78% each, respectively.

Table (4): Distribution of respondents according to their opinion on the importance of developing agricultural value chains

The importance of developing agricultural value chains	Freq.	%
• Increase farmers' access to extension services.	90	90
• Improve access to production inputs (seeds, tools, marketing skills.....)	89	89
• Increasing the bargaining power of small farmers in chain, improving their capacities and linking	78	78

them to many markets.	75	75
• Allowing farmers and entrepreneurs to work together to respond market demands by linking production, processing and marketing activities.	75	75
• Integration events between agricultural production markets.	70	70
• Attention to practical training of farmers on all improved agricultural practices.	67	67
• Explore new opportunities and enhance the possibility of finding better competitive advantages.	65	65
• Regional and international competition in local markets.	65	65
• Ensure access to information, knowledge and knowledge management within the chain development.	65	65
• Improving the quality of services accessible through the chain.	57	57
• Challenges of globalization, which necessitate reforming market gaps and bringing producers and consumers		

Source: calculated from the study sample questionnaires.

When asked about the extent of agricultural extension capacity to develop agricultural value chains on their own, the majority of them (62%) reported that they were not able to do so alone. 38% of the respondents indicated the ability of government extension alone to develop agricultural value chains. The main justifications for this were: its ability to provide training in this field (65.8%), direct contact with rural people and institutions concerned with rural development, as well as the experience of extension workers in dealing with rural people, which indicated 60.5% each.

Table (5): Distribution of respondents according to the extent of extension capacity to develop value chains alone

The extent to which extension can develop chains on its own	Num. N=100	%	Reasons for extension capacity	N = 38	%**
Yes	38	38	<ul style="list-style-type: none"> Ability to provide training in this field. 	25	65.8
no	62	62		23	60.5
Reasons for the inability of counseling alone	N = 62	%*	<ul style="list-style-type: none"> Direct contact with rural people and institutions concerned with rural development. Experiences of extension workers in dealing with rural people. The possibilities of extension centers distributed throughout the Republic. The extension areas cover all aspects of value chains. 		
• Weak resources and financial resources.	62	100		23	60.5
• Lack of appropriate numbers and competencies of extension workers.	47	75.8		23	60.5
• Aging current agricultural extension.	37	59.7		20	52.6
• Lack of training of extension workers.	33	53.2			
• The lack of interest of the state in this direction in reality.					
• The inability of the current advisory body to cope with the challenges.					

*

Percentage was calculated according to the number of respondents who indicated the inability of agricultural extension alone to develop value chains (62) respondents.

**Percentage calculated according to the number of respondents who indicated the capacity of agricultural extension alone to develop value chains and their number (38) respondents.

Respondents' views on the importance of cooperation sources of extension service in the development of agricultural value chains (governmental, NGOs, private)

The respondents agreed on necessity of cooperation and integration of all those concerned with providing agricultural extension service to develop value chains at all stages. The most important justifications from viewpoint of respondents were: the concerted resources of all parties in favor of the chain and increase mutual benefit for all its circles, the integration of expertise and take advantage of potential private sector in study of markets and improve trade outcomes, improve the extension service provided level, enhance their ability to move to higher value products and produce more value added, as indicated by 96%, 93% and 84% respectively. The results indicate that a variety of extension services are needed to help farmers, especially smallholders, remain competitive, profitable and produce niche markets.

Table (6): Distribution of respondents according to their opinions on the necessity of integrating the extension services sectors in developing value chains

The importance of the integration of extension services in development of value chains	Num.	%
Important	100	100
Not important	-	-
Reasons why this integration is necessary	Freq.	%
• Synergies of resources of all parties in favor of the chain and increased mutual benefit of its entire links.	96	96
• Integration of expertise and utilization of the potential private sector to study markets and improve trade outcomes.	93	93
• Improved level of extension service, enhanced value-added activities through improved technology, inputs, and improved infrastructure.	84	84
• Ease of establishing links between small producers, suppliers and exporters (GVCs).	71	71
• Ease and possibility of providing funding, to meet the challenges and good exploitation of opportunities.	69	69
• Prevent conflicting goals and activities.	65	65
• Save time, effort and resources.	56	56
• Positive collective competition among all those involved in the chain.	57	57
• The basis for sustained and sustainable development, especially in developing countries.	46	46
• Achieve better price levels due to production determined by the consumer.	45	45
• Strengthening the value chain by increasing relationships within it, both formal and informal.	41	41
• Improving the export situation of many high quality agricultural products.	37	37
• Understand and observe the timing of production, marketing internally and externally.	35	35
• Ensure good participation and cooperation in global value chains.	16	16
• Increase investment in the agriculture sector		

Source: calculated from the study sample questionnaires.

The respondents' opinions about the adequacy of agricultural extension service currently provided and their satisfaction with it

The most important reasons for their dissatisfaction were: lack of financial resources, the absence of financially and technically supportive projects for extension agency, the randomness in provision of services, and the absence of targeted activities, where pointed out 88.9% and 84.7%, respectively.

Table (7) Distribution of respondents according to their opinions on the adequacy of the extension service currently provided and their satisfaction with its level

Adequacy of the extension service provided	Num.	%	Causes of dissatisfaction	N=72	%*
Enough	2	2	• Weak physical possibilities.	72	100
To some extent	26	26	• The absence of projects supporting financially and technically to the extension apparatus.	67	93.1
Not enough	72	72	• Randomization in the provision of services and lack of targeted and targeted activities.	64	88.9
Extent of satisfaction with the level of extension service currently provided	N=100	%	• Lack of skills and expertise in the advisory body.	61	84.7
Satisfied	2	2	• Routine activities provided.	53	73.6
To some extent	26	26	• Weak counseling role currently.	45	62.5
Not satisfied	72	72	• Weak training opportunities for extension workers.	44	61.1
			• Weak training opportunities for extension workers.	42	58.3
			• Lack of coordination and integration between extension and other rural authorities.	39	54.2
			• Multiple sources of information and the difficulty of relying on the guide as a reliable source of information.	37	51.1
			• The lack of confidence of farmers in extension at the moment		

*Percentage calculated according to the number of respondents who indicated the inadequacy of the current extension services (72) respondents.

The problems facing extension system for the development of agricultural value chains were addressed through

a- The extent of problems from the point of view of the respondents:

The results of table (8) indicated that the most important problems facing the farmers from the point of view of the extensionists concerned with the development of value chains. Farmers did not benefit adequately from government efforts in scientific research and extension (3.22), low productivity, high transaction costs, inability to deal with consumer requirements and preferences (3.1), lack of specialized skills and inaccessibility to Technology, information and credit (2.98), in the district The most important problems associated with agricultural extension were: public services focused on sporadic concerns rather than addressing the agro-industrial chain as whole (3.65), lack of suitable alternatives to finance extension activities and services (3.45), and lack of facilities to provide services. According to the results of Table 9, the vast majority of respondents (93%) found that the level of problems was either moderate (53%) or large (40%).

b- Respondents' opinion on the negative impact of the problems facing the extension system

The results showed that the most negative problems affecting extension system and those related to farmers were: poor training, lack of available information, lack of awareness (2.91), lack of access to agricultural inputs and weakness. (2.77), and the failure of farmers to benefit adequately from government efforts in the fields of scientific research and agricultural extension (2.77), while the most negative problems affecting agricultural extension were: Lack of role of extension in providing information on production, lack of interest in export, provide market information (3.61), the erosion of functional device agricultural extension and the small number of field guides (3.4), the lack of suitability for alternatives to finance activities and extension services (3.32). The results of Table (9) also showed that the majority of respondents (93%) the level of negative impact of the problems in their view was moderate (59%), or high (34%).

This indicates that the majority of respondents attributed the problems that hinder agricultural extension from playing its role in promoting agricultural value chains and their negative impact on the conditions of resources lack and agricultural extension system resources. This can be explained in light of the interest lack of government agencies in supporting agricultural sector in general and Agricultural extension in particular, which was negatively reflected in the form of a clear decrease in extension workers number, in addition to the low budgets allocated for extension, as well as lack of training opportunities for extension workers, their inability to properly cover, communicate with beneficiaries or provide services, its activities as before, and no doubt those conditions affect negatively on agricultural extension role in the promotion of agricultural value chains.

Table (8): Respondents' opinions on the problems facing the agricultural development value chain

The problems	The extent of its existence						The extent of its negative impact					
	Always	Sometimes	Rarely	Not	Total Deg.	Average Degree	High	Medium	Low	Not	Total Deg.	Aver. Deg.
For farmers: the opening of markets has increased vulnerability of small farmers to their bargaining power.	120	84	18	33	171	1.71	160	66	8	30	264	2.64
Ignorance of new challenges issues, their diversity, and knowledge necessary lack to address them.	172	69	14	27	282	2.82	124	90	20	29	263	2.63
Inadequate supervision of agricultural extension of value chain practices	136	105	14	24	279	2.79	128	87	22	28	265	2.65
Unreliable agricultural conditions, liquidity constraints and market risks	124	99	20	26	269	2.69	140	78	10	34	262	2.62
Lack of access to agricultural inputs and poor quality	132	78	16	11	237	2.37	148	84	20	25	277	2.77
Poor training, lack of available information and lack of awareness	132	81	14	33	260	2.60	136	108	34	13	291	2.91
Lack of specialized skills, access to technology, information and credit	160	99	24	15	298	2.98	120	90	20	30	260	2.60
Limited opportunities, barriers to entry into wider markets, and lack of groupings for small farmers.	160	63	20	29	272	2.72	160	105	20	15	300	3.00
Farmers do not benefit adequately from government efforts in scientific research and extension fields.	176	120	20	6	322	3.22	120	105	34	18	277	2.77
Using traditional techniques and	132	93	30	21	276	2.76	80	81	14	46	221	2.21

relying on family labor												
Weak response to product standards, competition with the most sophisticated companies.	168	81	20	21	290	2.90	124	105	10	29	268	2.68
The constant need to know what to produce.	140	93	20	24	277	2.77	124	78	20	33	255	2.55
Continuous need to adopt new techniques to produce the required quality and quantity levels in a timely manner.	144	60	20	34	258	2.58	104	96	20	32	252	2.52
Absence of a culture of the importance of organizing farmers, especially their young in groups or unions.	184	51	20	27	282	2.82	148	75	20	28	271	2.71
Rural women are marginalized and have limited access to the same resources and agricultural inputs as men.	140	93	20	24	277	2.77	124	78	20	33	255	2.55
Other farming problems (low productivity, high transaction costs, inability to deal with consumer requirements and preferences).	180	90	20	15	305	3.05	140	117	20	16	193	1.93
Overall average						40.7						39.1
For Agri.extension: - Poor level of preparation and counselors technical training.	196	111	10	9	326	3.26	180	90	10	30	310	3.10
Lack of extension role in providing information on production, interest lack in providing information on markets.	228	90	22	2	342	3.42	160	90	40	10	300	3.00
Inability of the state to finance government extension	212	66	40	5	323	3.23	272	75	14	-	361	3.61
Clear understanding Lack of extension work philosophy, both among Ministry of Agriculture officials or those in charge of agriculture directorates.	104	87	30	30	251	2.51	84	78	30	38	230	2.30
Public services focus on sporadic concerns and failure to address the agro-industrial chain as a whole,	180	90	10	20	300	3.00	172	120	20	7	329	3.29
Erosion of the agricultural extension staff and the limited number of extension workers	300	45	20	-	365	3.65	220	90	30	-	340	3.40
Lack of suitable alternatives to finance agricultural extension activities and services	220	105	20	-	345	3.45	204	90	38	-	332	3.32
Weak relationship between scientific research and agricultural extension	180	105	20	10	315	3.15	160	90	38	11	299	2.99
Necessary facilities Lack and facilities to provide services and extension activities in an acceptable manner	200	135	10	-	345	3.45	180	117	32	-	329	3.29
Lack of a clear job description that accurately defines tasks	140	75	60	10	285	2.85	120	60	80	10	270	2.70
Lack of appropriate communication tools for technological changes and the requirements of the times.	156	111	30	9	306	3.06	148	90	30	18	286	2.86
Lack of coordination and integration between extension and other relevant organizations	180	75	50	5	310	3.10	66	40	40	17	261	2.61
Distrust of farmers at present in extension	180	75	50	5	310	3.10	66	40	40	17	261	2.61
Failure to select leaders in the Ministry of Agriculture from the extension workers.	140	75	60	10	285	2.85	264	264	26	26	264	2.64
Overall average						44						41.7

Source: calculated from the study sample questionnaires.

Table (9): Distribution of respondents according to the level of problems faced by the extension agency for the development of value chains and their negative impact

Level of problems	Num.	%	Level of its negative impact	Num.	%
Weak (less than 43 degrees)	7	7	Weak (less than 43 degrees)	7	7
Average (from 43-61 degrees)	53	53	Average (from 43-61 degrees)	59	59
High (62 and above)	40	40	High (62 and above)	34	59

Source: calculated from the study sample questionnaires.

Suggests of the respondents to solve the problems facing the extension agency for development of agricultural value chains

Guidance for all actors involved in (provision of credit, inputs, training and participation in agricultural policy development), provision of training for specialists in modern production systems, post-harvest transactions and marketing strategies internally, The most important Suggests related to the role of agricultural research were: meeting the technical needs of the actors at value chain different levels (91%), supporting a strong reserve of scientific research and the private sector (90%), also mentioned the most important Suggests related to the staterole: Support the extension sector to regain its active role in the transfer of targeted research activities, provide credit and facilitate farmers in this area, preferably through agricultural and marketing associations or NGOs and credit to farmers in a timely manner To improve productivity and marketing operations, as noted by 95%, 85% and 85% respectively.

From the above, it is clear that the Suggests of the solutions mentioned by the respondents were consistent with the problems they have already indicated that hinder agricultural extension system from playing its role in the development of value chains. These include spending on the requirements, concerns of workers and beneficiaries in particular, which confirms need to pay attention to support, encourage agricultural extension role will not restore its vital role in the countryside in general, and in this area in particular.

Table (10): Proposals of the respondents to solve the problems facing the extension agency for the development of agricultural value chains

Suggests	Freq. (n=100)	%
A - For agricultural extension:		
• Encourage collective action between farmers and exporters through direct contracts between them, to reduce costs, and provide inputs	95	95
• Include extension services for all actors involved in (provision of credit, inputs, training and participation in agricultural policy development).	91	91
• Provide the necessary training for specialists in modern production systems, post-harvest transactions, marketing strategies internally and externally.	88	88
• Support extension behavior by providing training courses and workshops to enhance their understanding of the value chain concept and its applications in extension work.	84	84
• Training farmers and producers to improve quality standards to meet quality control standards for different markets.	84	84
• Extension services should be sufficient to educate farmers on how to properly enter markets.	82	82
• Appointing new specialists in the appropriate fields and advisors with agricultural university degree.	81	81
• Adopting a comprehensive approach extension (participatory extension, pluralismetc).	80	80
• Develop extension services to respond to evolving requirements to support farmers (grouping them, linking them to markets, connecting producers to support networks and other services(76	76
• Providing and training ICTs.	76	76
• Strengthen and expand relationships among actors to improve capacity and resources, and increase resilience to stress.	91	91
B. For agricultural Research:		
• Meet the technical needs of actors in different levels of the value chain.	90	90
• Strong research and private sector reserve support to provide information and technology related to required products.	95	95
C - For the State:		
• Provide support from development projects and government agencies, to buy inputs and modern irrigation systems.	85	85
• Support the extension sector to regain its active role in the transfer of targeted research activities.	85	85
• Providing credit to farmers and facilitating them in this field, preferably through agricultural and marketing associations or NGOs	82	82
• Access credit to farmers in time to improve production and marketing processes.	80	80
	79	79
	73	73
	69	69

<ul style="list-style-type: none"> • Enhance the sources of extension services (governmental - private - NGOs) and work on their integration and sustainability. • Facilitate assembly and bulk purchase among farmers and small producers to facilitate access to new markets. • Seeking to reduce interest rates for agricultural loans to help develop productive and marketing activities. • Develop and implement a value chain approach and learn about new challenges to address the diversity of issues. • Supporting some investments related to improving the quality of products to participate successfully in specialized markets. • Focus on financial policies to improve the standard of living of farmers, keeping them away from the domination of intermediaries, reducing risks and not forcing producers to sell their products to certain agents. 	68 60	68 60
---	--------------	--------------

VI. Recommendations

In the light of the outcome results of the study, could draw some recommendations and as follows:

- 1- Necessity of restoring the leading role of the state in supporting and developing its most important economic sectors, namely the agricultural sector, because of its negative and serious effects on the status of the agricultural extension system, scientific research or even the members of the rural community who are accustomed to this support, and its impact on their agricultural production as well as their standard of living.
- 2- Need to provide training courses for extensionists in the areas of extension work oriented to market and entrepreneurship, to respond effectively to the new challenges faced by farmers, to enable smallholders to add value to their products, to develop a common strategy that benefits everyone along the chain, and thus the development of agricultural value chains.
- 3- The importance of focusing light on the most important problems with a negative impact on the extension system and its target audience, work to overcome them or reduce the negative effects, also the need to pay attention to the suggests of respondents to reduce the work pressure, and put them into practice, which may provide an environment An occasion through which all actors as well as farmers can be promoted along value chains.
- 4- The importance of all sectors concerned with rural development to develop social capital as the most important resource available to small farmers who constitute the base of the pyramid in Egyptian agriculture, low-income, limited education, so they must be organized in order to facilitate collective work, reduce transaction costs, and enhance confidence between them, Their productivity can also be improved and new practices and technologies adopted, which could have an impact on increasing their ability to add value to their products and improve their conditions in a sustainable manner.
- 5- Given the critical agricultural extension role that leads the process of agricultural modernization, its services must include all issues along the value chain, and also be available to stakeholders and all actors, not just farmers.
- 6- Need to adopt a more comprehensive approach to agricultural extension not only to provide technical solutions to production problems, but a broader approach to understand the objectives of farmers and market opportunities, Able to keep the flow of information and new practices sustainable, able to develop entrepreneurial capacity and management capacity of farmers to be able to meet new challenges.

References

- [1]. World Bank group "Investing in Women along Agribusiness Value Chains", International Finance Corporation Washington, 2016. www.ifc.org
- [2]. Miller, Calvin-Linda Jones, "Financing the Value Chain in the Agricultural Sector - Tools and Lessons", Food and Agriculture Organization of the United Nations, Regional Office for the Near East, Cairo, Egypt, May 2013.
- [3]. Trade and Development Board, "Assessing the Impact of Public-Private Partnerships on Trade and Development in Developing Countries - Public-Private Partnerships for Enhancing SME Participation in Global Value Chains" UNCTAD, Geneva, March 2013.
- [4]. Birachi, Eliud - Andre van Rooyen,- Hubert Some,- FelisbertoMaute,- Jo Cadilhon,- AdewaleAdekunle - KeesSwaans , " Innovation platforms for agricultural value chain development" Innovation platforms practice brief 6, November 2013.
- [5]. ICCo India Agriculture Value Chain Development, 2017, info@iccoindia.org.
- [6]. Ammani, A.A- Abdullahi, Y.M, "Developing Agricultural Value Chains: Implications for Agricultural Extension" Adv. Agric. Biol. 4 (4), 2015. www.pscipub.com.
- [7]. Swanson. Burton E. - RiikkaRajalahti"Strengthening Agricultural Extension and Advisory Systems: Procedures for Assessing, Transforming, and Evaluating Extension Systems" International Bank for Reconstruction and Development / the World Bank, 2010.
- [8]. Mauki, C. R. - Ngowi, A. R," Value Chain Approach Limitations to Agricultural Extension Training among Extension Staff in Maize" Research Report Series (RRS), Vol. 2, Issue 1, 2018.
- [9]. Naruka, P. S. - VermaShilpi, - S. S. Sarangdevot, - C. P. Pachauri, - Shilpi Kerketta1 - J. P. Singh, "A Study on Role of WhatsApp in Agriculture Value Chains" Asian Journal of Agricultural Extension, Economics & Sociology, 20(1): 1-11, 2017.

- [10]. Majdouline, Dhina, "Agricultural Finance and Activation of Value Chains for Market Access for Agricultural Products", Economic and Administrative Researches, 17th Issue, Faculty of Economic, Commercial and Management Sciences, Mohamed Khedr University, Biskra, Algeria, 2014
- [11]. King, Robert, - Michael S. Hand,- Gigi DiGiacomo,- Kate Clancy,- Miguel I. Gomez,- Sherman D. Hardesty,- Larry Lev, - Edward W. McLaughlin, "Comparing the Structure, Size and Performance of Local and Mainstream Food Supply Chains", ERR-99. U.S., Economic Research Service. June 2010. www.ers.usda.gov/publications/err99
- [12]. Diamond, Adam,- Debra Tropp,- James Barham,- Michelle Frain Muldoon,- Stacia Kiraly, -Patty Cantrell., " Food Value Chains: Creating Shared Value to Enhance Marketing Success" A Project of the USDA Agricultural Marketing Service and Wallace Center at Winrock International, U.S. Dept. of Agriculture, Agricultural Marketing Service, May 2014. <http://dx.doi.org/10.9752/MS141.05-2014>
- [13]. World Bank, "BUILDING Social Capital Socio-Economic Intensification, Agriculture for Impact, 2018.
- [14]. Roduner, Daniel " Working Paper Donor Interventions in Value Chain Development" Community of Practice on Value Chains in Rural Development Financed, Swiss Center for Agricultural Extension and Rural Development (AGRIDEA)" SDC, Berne, July 2007.
- [15]. Porter, Michael E- Mark R. Kramer. "Creating Shared Value: How to reinvent capitalism and unleash a wave of innovation and growth." Harvard Business Review, February 2011.
- [16]. Saunders, Caroline- Hugh McDonald- Tim Driver" Enhancing Value for New Zealand Farmers by Improving the Value Chain", Agribusiness and Economics Research Unit, Lincoln University Center, Research Report No. 324, New Zealand, 2011. <http://www.lincoln.ac.nz/aeru/>
- [17]. Rubin, Deborah - Cristina Manfre., Technical Note on "Applying Gender-Responsive Value-Chain Analysis in EAS" Cultural Practice LLC and MEAS Project, Modernizing Extension and Advisory Services, MEAS, College of ACES, 213 Mumford Hall, Urbana, IL, USA, March 2012. www.meas-extension.org
- [18]. Sadek, Inas El-Sayed, "Study of Collections, Drawing and Characterization of Value Chains in Major Economic Sectors in Fayoum Governorate," Fayoum Journal for Agricultural Research and Development, Faculty of Agriculture, Fayoum University, Vol. 26, No. 2, 2012.
- [19]. USAID, United States Government, "Agriculture for Children's Empowerment (ACE) Value Chain Network Analysis", Liberia ACE Value Chain Network Analysis, report United States Agency for International Development, December 2014.
- [20]. Shamsan, Kamal, "A study and analysis of the value chains of coffee crop in Dhamar governorate", Master Thesis, Faculty of Agriculture, Dhamar University, Yemen, 2014.
- [21]. Shen, Xueshan, - Huijuan Qu, - Gang Huang,- Ran Hu-Hong Wang, "Analysis of the Extension Chain of Year-Round Production Technology of Potato Industry" J Springer-Verlag Berlin Heidelberg, 2015.
- [22]. Berthe, Abou, " Extension and Advisory Services Rural Extension Services for Agricultural Transformation" United Nations, Economic Commission for Africa , International Conference Center, Feeding Africa, 21-23 October 2015.
- [23]. Hailu, Beza - François van Schalkwyk, "OPEN DATA AND TRANSPARENT VALUE CHAINS IN AGRICULTURE A REVIEW OF THE LITERATURE" World Wide Web Foundation, October 2016.
- [24]. Dazé, Angie - Julie Dekens "Enabling Climate Risk Management along Agricultural Value Chains: Insights from the rice value chain in Uganda" BRIEFING NOTE SERIES the International Institute for Sustainable Development, June 2016.
- [25]. Lemma, Mamusha- Gebremedhin, Berhanu- Hoekstra, Dirk- Bogale, Aklilu, " Current Status of Agricultural Extension Services for Market Oriented Agricultural Development in Ethiopia: Results from A Household Baseline Survey" African Research Review, An International Multi-disciplinary Journal, Ethiopia, Vol. 10(3), Serial No.42, June, 2016.
- [26]. DEPARTMENT OF TRADE AND INDUSTRY, " The Philippines in Agribusiness Global Value Chains: Introduction" Policy Briefs, GMA News, Series No. 2017-11.
- [27]. Chikaire, J.U., -Oparaojiaku, J.O. - Chikezie, N.P." Agricultural Value chain Training Needs of Front-line Extension Professionals in Imo State, Nigeria" International Journal of Sustainable Development, Volume 11, Issue 3, December, 2017. www.africaresearchcorps.com
- [28]. The Food and Agriculture Organization "Market and value chain analysis of selected sectors for diversification of the rural economy and women's economic empowerment" United Nations, Budapest, 2018.
- [29]. Bhattacharjee, Suchiradipta - Saravanan Raj "Status of Agricultural Markets and Value Chain in Tripura" Working paper 2, National Institute of Agricultural Extension Management (MANAGE), An Organization of Ministry of Agriculture and Farmers Welfare, Govt. of India, MANAGE-Centre for Agricultural Extension Innovations, Reforms and Agripreneurship (CAEIRA) Rajendranagar, Hyderabad , Telangana State, India, 2018 . www.manage.gov.
- [30]. World Intellectual Property Organization, "Promoting Innovation in the Agro-Food Sector in Uganda: Sectoral Studies on Substances Used in Cultivation of Robusta and Tropical Fruits Processing", Committee on Development and Intellectual Property, 21st Session, Geneva, May 14-18, 2018.
- [31]. Belissa, Mathewos, "Engaging agro dealers in agricultural extension service and value chain development: An Approach to Modern farm advisory services". Journal of Agricultural Economics, Extension and Rural Development., Vol. 6(3), March, 2018.
- [32]. Ministry of Gender and Development of Liberia, "Gender-Aware Programs and Women's Roles in Agricultural Value Chains in Liberia" Government of Liberia PREM, Gender and Development Group, World Bank, 2019.
- [33]. Agri Pioneers Agribusiness website `` Vegetables and value chains sector " the first platform for entrepreneurship in agriculture, 2019. www.agrirowad.com

Hanaa Mohamed Hawary" The Challenges of Agricultural Extension in Developing Agricultural Value Chains in Fayoum Governorate. "IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS) 12.10 (2019): PP- 08-24.